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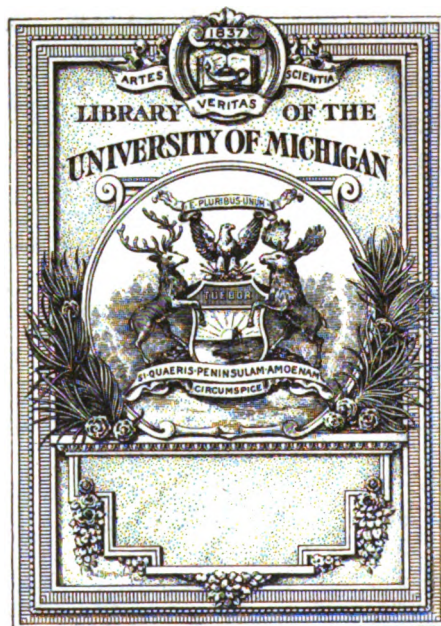
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ORIGINAL COMMUNICATIONS.

SURGICAL TREATMENT OF NASAL CATARRH.

*Read before the Philadelphia County Medical Society,
September 14, 1881.*

BY CARL SEILER, M.D.,

Lecturer on Laryngology at the University of Pennsylvania,
Pathologist of the Presbyterian Hospital, etc.

THE term "nasal catarrh" is at the present time a very comprehensive one, and signifies a more or less chronic inflammatory condition of the mucous membrane lining the nasal cavities, which latter term includes, clinically speaking, the nasopharynx, the posterior nasal cavity, and the anterior nares, as well as the frontal sinuses and antra of Highmore.

The physiological functions of these cavities—viz., the warming, moistening, and filtering from dust of the air in respiration, and the qualifying of the tones of the voice by resonance, which latter I have endeavored to prove in a paper read before the American Laryngological Association, session of 1881—I will not here enlarge upon, but would say a few words in regard to one peculiarity in the histology of the nasal mucous membrane where it lines the turbinated bones. In this location we find that the submucous tissue which is interposed between the mucous membrane proper and the periosteum of the turbinated bones, and which contains the racemose mucous glands, is composed of strong bands of elastic connective tissue interlacing with each other, thus forming meshes irregular in size and shape, which contain true venous sinuses lined with endothelium.

This arrangement forms just such a tissue as we find in the corpora cavernosa of the penis,—viz., true erectile tissue, which under certain conditions will suddenly enlarge to many times its original bulk, and which was termed by Professor Bigelow "turbinate corpora cavernosa."*

Nasal catarrh may conveniently be divided into three stages, which usually follow each other in regular sequence, but each one of which may also appear independently of the others. These three stages are, first, the congestive stage, which is characterized merely by a frequent recur-

rence of acute coryza, but without any definite symptoms in the intervals, so that the patient is not cognizant of the fact that he is suffering from catarrh in the first stage, and but rarely applies for treatment; second, the hypertrophic stage, which is marked by true hypertrophy of the mucous membrane and its glands in certain portions of the nasal cavities, especially on the turbinated bones and the septum, and which gives rise to most of the symptoms of catarrh complained of by the patient; and third, the atrophic stage, in which we find a general wasting of the mucous membrane, a want of secretion, and a consequent accumulation of scabs, which become putrefied, thus imparting a peculiar disagreeable odor to the breath, and may lead to ulceration if they remain long in contact with the mucous membrane. The second or hypertrophic stage is the most frequent form of nasal catarrh which comes to the notice of the practitioner; and, as surgical treatment is necessary to effect a cure of this condition, I will describe the lesions and symptoms to which they give rise more in detail, before entering upon the description of the surgical means most adapted to relieve the trouble. The frequently repeated acute inflammation of the mucous membrane in the first stage of catarrh leads not only to a deposit of inflammatory tissue in the mucous membrane, but also to an increase of the glandular elements, and at the same time to an increase in size of the venous sinuses in the erectile tissue covering the turbinated bones, so that gradually localized swellings show themselves, which remaining permanent produce partial or complete stenosis of the anterior nares. The stenosis is more commonly partial while the patient is in the erect position, but frequently becomes complete in one or the other nostril when he lies down, or under the influence of mental excitement or anything which tends to increase the blood-pressure in the head, for these swellings, being principally composed of erectile tissue, will be increased in size by a greater afflux of blood into their venous sinuses. External irritants, such as dust or acrid gases, produce the same effect and cause the hypertrophies to swell suddenly. These localized hypertrophies are generally situated at the lower portion of the inferior turbinated bones, but are also found on the middle and supe-

* Boston Medical and Surgical Journal, April 29, 1875.

rior turbinated bones and on the septum. Those situated in the anterior nares and visible by inspection through the nostrils have been termed *anterior hypertrophies*, while those hanging from the superior turbinated bone into the post-nasal cavity are called *posterior hypertrophies*. The former are usually sessile with a broad base, while the latter are more or less pedunculated and can be seen only by means of the rhinoscopic mirror. Other conditions than a hypertrophy of the mucous membrane may give rise to partial or complete stenosis, and consequently to many of the symptoms of nasal catarrh, such as localized or extensive deviation of the septum, congenital malformation of the bones of the skull surrounding the nasal cavities, polypi and other neoplasms, and, finally, foreign bodies introduced into the nostrils.

The symptoms to which these conditions give rise are so well known that it is hardly necessary to allude to them here, and I will, therefore, merely for the sake of completeness, say a few words about them.

The most prominent and, to the patient, most annoying symptom of catarrh is a copious discharge of thick, ropy mucus, which accumulates in the posterior nares, and from there descends into the nasopharynx, causing a feeling of fulness in that region which the patient endeavors to relieve by hawking. This mucus is the perverted secretion of the hypertrophic glands in the mucous membrane, and is prevented from flowing through the natural channel, the anterior nares, by the presence of the anterior or posterior hypertrophies.

The frontal headache which is but rarely absent, and which frequently assumes the character of neuralgia, is caused by the pressure exerted upon the sensory-nerve fibres by the swelling of the mucous membrane lining the frontal sinuses and antra of Highmore. An extension of the inflammation into the Eustachian tube causes a narrowing of its calibre, and consequently gives rise to tinnitus and deafness; and, finally, the partial or complete stenosis of the anterior nares gives rise to a train of symptoms which, being remote from their cause, are frequently either entirely overlooked or are regarded as manifestations of a different disease. As has been said before, the physiological functions of the nose are, besides its being the organ of smell, the organ of raising the temperature of the inspired air, and of raising its humidity, or cutting-off of the hypertro-

make it moist before it reaches the larynx, and to add to the quality of the tone of the voice by its resonance. If, then, there exists an obstruction to the free ingress and egress of air in the nose, the mucous membrane of the larynx will be irritated by a dry cold air filled with fine particles of organic and inorganic dust when respiration is carried on through the mouth, and a chronic laryngitis frequently results. In most cases in which the stenosis is but partial—that is, when the patient can breathe through his nose during the day, but is unable to do so during sleep, and awakens with parched throat and tongue—he does not carry a sufficient amount of air through the narrowed channels to the lungs to thoroughly expand them and sufficiently oxygenize the blood for the wants of the system, and the consequence is a sense of oppression in the chest and a general impairment of nutrition. There is another symptom, which in many cases is very striking, and which is due partly to impaired nutrition and partly to the pressure exerted on the subjacent parts by the hypertrophied mucous membrane of the nasal cavities,—viz., loss of memory, and an inability on the part of the patient to concentrate his mind upon any one thing.

If the localized hypertrophy is situated near the opening of the tear-duct, the latter frequently becomes occluded at its lower opening and causes a watering of the eyes, while these same swellings, no matter where situated, reduce the bulk of the nasal cavity, and thus interfere materially with nasal resonance, without which the voice is devoid of its peculiar character.

From the foregoing remarks it will appear that the most rational mode of treatment for this stage of the disease consists in the removal of the obstructions in the nose in a manner which accomplishes the object thoroughly and at the same time gives the patient the least discomfort from pain and hemorrhage. The application of caustics, such as chromic acid, nitric acid, acetic acid, etc., with a view to destroy the hypertrophies, gives great pain, which lasts a long time; and, as the action of these agents cannot always be controlled, they are apt to cause serious general inflammation of the mucous membrane lining the nasal cavities. The tearing-out, or cutting-off of the hypertro-

phies with sharp or dull forceps gives rise not only to great pain, but also to copious hemorrhage often difficult to control.

To prevent pain and hemorrhage, I am in the habit of using either galvano-cautery or Jarvis's wire snare in the treatment of these cases, and have found that either method, if properly used, is almost absolutely painless and bloodless, while the purpose of removing the hypertrophies is thoroughly accomplished.

My battery and knife for the use of galvano-cautery in nasal diseases I exhibited to the County Medical Society last spring in its crude but serviceable form,* and since then Mr. Flemming has made a more elaborate apparatus, which in its principle is the same, but in which the details have been improved. The knife also has been improved by adopting a slight modification of Shurly's handle and by using a blade which cuts on one side only, as suggested by Dr. Bosworth, of New York. The use of this instrument is very simple and requires but a moderate amount of skill and care; but it should be used in those cases only in which the anterior hypertrophies are not large enough to touch the septum and cause complete stenosis.

To bring the hypertrophy into view I prefer a rubber speculum to the generally-employed nasal dilators, because the latter always stretch the nostrils and disturb the normal relation of parts to each other, thus making it more difficult to decide whether the hypertrophy is touching the septum or not, and because the pressure of the blades against the septum produces more or less pain. The speculum, on the other hand, has the advantage of leaving the parts in their normal condition, pushing the hairs in the nostrils aside and out of view; and in using the galvano-cautery knife it protects the parts not to be burned.† By having the end of the speculum cut slanting, the hypertrophic portion of the mucous membrane can be brought into the rubber tube and the knife applied without the least danger of injuring any other portion.

Having thus brought the hypertrophy into view, the plates of the battery are depressed, the knife introduced into the end of the speculum, and while there it is heated to a dull cherry heat, when a quick incision is made into the projecting tissue, and the

knife removed while still hot. I do not heat up the platinum loop before introducing it into the speculum, because I do not want the patient to see the glowing knife; but the tissue should not be touched until the proper degree of heat has been attained. The knife should be at a cherry heat when the incision is made; then there will be neither hemorrhage nor much pain; but if the heat is too great, considerable bleeding will follow the incision, and if the loop is not hot enough the pain will be severe. The immediate result of the incision is the formation of an eschar and of acute inflammation surrounding the burned portion of tissue, which stands in a direct relation to the extent of the burn, and which will spread over the whole nasal cavity, producing a more or less severe coryza if not counteracted.

The ultimate result of the operation is the formation of bands of cicatricial tissue, which by its contraction binds down the swelling and thus prevents the stenosis. The number of incisions necessary to remove, or rather obliterate, the hypertrophies will depend upon their size and degree of firmness. Too much should not be attempted at one sitting, on account of the often severe inflammation following extensive burns of the mucous membrane.

When the hypertrophies are large, and especially when they are situated in the posterior nasal cavity, hanging from the posterior portions of the turbinated bones, I prefer to use Dr. Jarvis's wire snare to remove them. This admirable little instrument, a description of which will be found in the *Archives of Laryngology*,‡ when properly used is certainly the most satisfactory means of attaining the end, which is the complete removal of hypertrophies of the nasal mucous membrane. To do this, I proceed as follows in a case of large anterior sessile hypertrophy. I transfix the swelling near its base with a curved needle, devised for the purpose by Dr. Jarvis, and then pass the wire loop of the snare around the handle of the needle, then over the growth and point of the needle as it emerges from the tissue, and draw the loop tight before making traction with the milled-head screw of the instrument, and then gradually snare off the swelling, occupying from fifteen to twenty minutes in its removal. When the wire has passed entirely

* Philadelphia Medical Times, August 27, 1881.

† See "Galvano-Cautery in Hypertrophic Nasal Catarrh," by Carl Seiler, American Specialist, September 1, 1881.

‡ Pathology and Surgical Treatment of Hypertrophic Nasal Catarrh, Archives of Laryngology, vol. ii. No. 2.

through the tissue, which it does generally with a jerk, the hypertrophy comes away sticking to the transfixing needle. In the same manner can localized deviations of the cartilaginous septum be ablated if they interfere with the functions of the nose. If, however, the hypertrophies are situated so far back that they project into the posterior nasal cavity and can be seen only with the rhinoscopic mirror, the manner of removing them is very different. The mode of attachment and apparent size of the swelling having been determined by means of the rhinoscopic mirror, the wire loop is made of a size large enough to slip over the hypertrophy, and its size is measured, before introducing it, by means of the little measuring device attached to the instrument. This is done to determine when the tissue has been cut through by the wire, for it often happens that shreds of mucous membrane are drawn by the wire into the tube of the instrument, making traction as difficult as though the tissue had not yet been cut.

If the patient's palate is at all unruly, it must be secured by passing an elastic band through the nose and out of the mouth, where it is secured by means of Jarvis's tape-holders in such a manner as to draw the palate forward without making undue traction. The tape is best drawn through the nose by means of a large Eustachian catheter, through which is pushed first a piece of catgut string until its end appears in the pharyngeal cavity, where it can be secured by a pair of forceps and drawn out through the mouth, the other end still projecting from the nose. The catheter is then withdrawn, and the tape secured to the end of the catgut string projecting from the nose, when it may be drawn through the nose and mouth and be held by the tape-holder. The palate being thus secured, the rhinoscopic mirror, also devised by Dr. Jarvis, and which is a combination of tongue-depressor and rhinoscopic mirror, is introduced with one hand, bringing the hypertrophy into view, while with the other hand the snare is passed through the anterior nares, and its wire loop is passed over the swelling guided by the rhinoscopic mirror. I will state here that if the left side of the nose is to be viewed by means of the rhinoscope I find it better to hold the mirror in the left hand, and if the right side is the one to be examined the mirror is best introduced with the right hand,

while the snare, of course, is directed in each case by the other hand. As soon as the wire loop has passed over the hypertrophy and has slipped over the pedicle, which always exists to a greater or less extent, it is tightened rapidly until the tension is considerable and the patient begins to feel the pressure. After this the tension must be gradual; and I find a good rule is to turn the milled head of the screw until the patient blinks with his eyes, then to let him rest for two or three minutes, and then repeat the turning of the mill-head. In this way the largest hypertrophy may be removed without pain or hemorrhage of any account, and the whole operation will not occupy more than one to one and a half hours. In the posterior hypertrophies, the wire does not cut through the tissue with a jerk, as is the case in the anterior hypertrophies, but does so gradually, and the measuring device on the instrument must be watched to see when the loop has passed into the tube of the instrument. In most cases the hypertrophy comes away with the snare, but in some cases it remains in its place after it has been severed from its connection with the turbinated bone. Under such circumstances it should be at once removed with a pair of forceps; but the patient should not be allowed to blow his nose to remove it, for fear of starting hemorrhage. After having carefully inspected the posterior nares with a view to ascertain whether other swellings are to be removed at a subsequent sitting, the tape is taken out and the patient allowed to depart, usually extremely happy from the circumstance that he can now breathe *freely* through his nose, which before the operation he could not do.

This paper has become already longer than I anticipated; and I will therefore leave for a future occasion the consideration of the removal of obstructions in the nasal cavities other than those spoken of.

1346 SPRUCE STREET.

HAS EACH OF THE ZYMOTIC DISEASES A SPECIFIC POISON?

BY G. HAYWARD COBURN, M.D.

JANUARY 30, I was called to see Ethel G., æt. 12. I found a well-marked case of diphtheria; pain in head and back, high pulse and temperature, false membrane covering both tonsils and uvula.

No signs of any rash upon body; had had scarlatina.

Under use of potass. chlor. gr. iii and tinct. ferri chlor. ℥ xii every half-hour for twenty-four hours, and subsequently at longer intervals, with the use of carbolic spray locally, the symptoms rapidly subsided. Some of the ordinary sequelæ followed, such as weakness of lower limbs, partial paralysis of voice and deglutition, etc.

February 4, Maud G., æt. 14, Edie G., æt. 6, and Lola G., æt. 4, were taken sick,—headache, vomiting, etc.,—and I expected the usual manifestations of diphtheria to follow. Somewhat to my surprise, on the third day a *bright scarlatinous rash*, covering the whole body, appeared. None of these had had scarlet fever. No false membrane appeared in the fauces of Maud or of Lola, though there was some angina. Their cases ran mildly through the usual course, followed by abundant desquamation. In Edie the anginous symptoms were very severe, with abundant and successive crops of false membrane. All her symptoms indicated serious blood-poisoning. For eight or ten days the temperature ranged from 103° F. to 105° F. Great swelling of lymphatic glands of neck occurred, with various symptoms indicating extreme adynamia. On the fifteenth day I opened a large abscess on right side of neck; the pus was very offensive, and so irritating that it caused the skin around to inflame and ulcerate. Three days after, a deeply-seated abscess formed on the left side, causing difficulty of breathing from pressure upon the trachea: this I at once opened. Finally, in spite of free stimulation by means of quinine, brandy, carbonate of ammonium, and camphor, she continued to sink, and died on the twenty-first day of illness.

In the mean time, Mrs. G., who was worn out by constant nursing, was exposed to cold, which was followed by a sharp attack of acute rheumatism; temperature, 104° to 105° F.; much pain and swelling of ankle-, wrist-, and finger-joints. These symptoms were promptly arrested by large doses of salicylic acid.

February 21, or at the time of Edie's death, Lola G., who, it will be remembered, was convalescing from scarlatina, was again taken sick, and in two or three days a typical case of measles was developed. At the same time, Mina G., æt. 1, broke

out with measles. Harry G., twin brother of Mina, had no rash, but in a few days a swelling was noticed in his right groin, which extended downward until it reached the knee. The whole thigh became as hard as a brickbat, terminating in an abrupt line at Poupert's ligament. This I attributed (whether correctly or not) to thrombosis. Under the assiduous use of poppy fomentations and inunctions with blue ointment and extract of belladonna, the swelling and hardness disappeared, except just below the groin, where an abscess formed: this I incised. Diffuse cellular inflammation followed, and I had to extend the original incision in several directions to allow separation of sloughs. The whole cellular tissue of the femoral triangle sloughed out, leaving the muscles and deep fascia exposed. Under the use of carbolic irrigations and dressings the immense hole healed by granulations, and a good recovery followed.

I offer no comment, but again ask the question, Has each of the zymotic diseases a specific poison?

FREDERICTON, NEW BRUNSWICK, CANADA.

BRONCHIAL CATARRH ACCOMPANIED BY SPASMODIC COUGH AND EPIGASTRIC PAIN, OCCURRING IN CHILDREN.

BY LOUIS STARR, M.D.,

Physician to the Episcopal Hospital, and Assistant Physician to the Children's Hospital, Philadelphia.

DURING the past February, March, and April, my months of service in the dispensary of the Children's Hospital, I had the opportunity of studying a number of cases affected with bronchial catarrh attended by a peculiar spasmodic cough and abdominal pain, and contrasting markedly with the very numerous instances of simple bronchitis on the one hand, and of whooping-cough on the other, which were under treatment at the same time.

The following history, compiled from the notes of Dr. Henry D. Harvey, is an almost typical illustration of the clinical features observed, all of the patients being about seven years of age, and nearly all having had whooping-cough at some period more or less remote.

Josephine T., aged 7 years, was brought to the hospital on April 18, 1881. She had had measles in infancy, and a light though unmistakable attack of whooping-cough in

the spring of 1878: with these exceptions her health had been good until two weeks before the date of application, when she began to be troubled with cough.

When first seen, she was considerably wasted, her skin was pale and felt hot to the hand, and her face had a somewhat puffed appearance, particularly about the eyelids and the bridge of the nose. At intervals of five or ten minutes a paroxysm of cough occurred. Each paroxysm lasted about five seconds, consisted of several short rapidly-repeated expiratory efforts, succeeded by a single deep and *noiseless* inspiration, and while it continued the cheeks were brightly flushed, an expression of pain passed over the face, the body was bent forward, and the hands were pressed against the epigastrium. Afterwards a very trifling amount of frothy mucus was expectorated. On being questioned, the child stated that there was constant soreness at the epigastrium, and that the spasms of coughing produced acute pain in this region. According to her mother, the kinks were more frequent and severe at night, when there was also considerable febrile reaction. A physical examination revealed numerous sonorous and sibilant rhonchi over both lungs; there was no alteration in the percussion-resonance, and not the slightest evidence of pleuritis could be detected. The respiratory movements were not noticeably hurried. The epigastrium was normal in appearance, and was not tender to the touch. The pulse was one hundred per minute. The tongue was lightly frosted, the appetite poor, the bowels regular. The little patient was ordered one-twelfth of a grain of extract of belladonna, with four grains of powdered alum, in syrup and water, every three hours; directions were given to redden the epigastrium by a sinapism twice daily, and to employ a diet of milk, eggs, and meat-broth, as there was little desire for ordinary food.

By April 21, when the second visit was made, there had been considerable improvement. Her face had a more natural appearance, there was less fever at night, the paroxysms of coughing were less frequent and severe and productive of much less pain, the expectoration was more free, and coarse mucous râles had, to a great extent, taken the place of the rhonchi. After this convalescence progressed steadily.

The symptoms of especial interest in this and in all of the cases of the same class that came under my observation were the peculiar cough and the abdominal pain.

It is not unusual for the cough of simple bronchitis to assume a spasmodic character, the spasms often ending in vomiting with partial or even complete emptying of the stomach. These paroxysms, however, are

merely spasmodic attacks of ordinary coughing, and, apart from the law of their recurrence, do not call to mind the kinks of whooping-cough. But in the instances of which I have given an example, the resemblance to the latter disease was sufficiently striking to bear out the statement of Niemeyer,* that the coughing-fits in pertussis are undistinguishable from those of any severe laryngo-bronchial catarrh arising from cold, or from the presence of an irritant body in the larynx, and that the diagnosis must be based upon the epidemic appearance of the disease, and the fact that it is almost exclusively met with in childhood, together with its obstinacy and long duration. Thus, in the case detailed, the occurrence of several successive expiratory efforts during each act of coughing, associated with flushing of the face and puffiness of the eyelids and the bridge of the nose, was very suggestive of whooping-cough, the only conditions wanting to make the picture perfect being the inspiratory whoop and the expectoration of a mass of viscid mucus at the end of the paroxysm. But the history of a previous attack of whooping-cough, and the rapidity with which the symptoms yielded to remedies directed to the relief of laryngeal irritability, indicated that the spasmodic cough was due to an ordinary catarrhal condition combined with an extraordinary hyperæsthesia of the mucous membrane of the larynx.

While, then, the kinks of this "bronchitis with spasmodic cough" closely simulated those of pertussis, in each of my patients there was something wanting in the completeness of the paroxysms, the factor absent being usually the noisy inspiratory crow. They were also never attended by subconjunctival ecchymosis or hemorrhage from the nose, symptoms so frequently noted in severe whooping-cough. During an epidemic of whooping-cough these minor differences, though possibly indicating the nature of the disease, are, of course, insufficient for a positive diagnosis, and the true points of distinction must be looked for in the history of the illness, and in the effect of treatment upon its course and duration.

The other symptom, the epigastric pain, was complex, the children complaining both of acute pain during the coughing-

* Niemeyer's Text-Book of Medical Practice, vol. i. p. 98.

fits, and of a continued sense of soreness or discomfort over the upper third of the abdomen. The first element,—the acute pain,—which was often great enough to produce distortion of the face, was unquestionably due to over-straining of the abdominal muscles, by whose spasmodic jerking the act of coughing is effected, and was identical with the pain so often observed in simple bronchitis with violent cough. The second element depended partially upon muscular soreness, but chiefly upon gastric catarrh, a catarrhal condition of the mucous membrane of the air-passages and of the gastro-intestinal tract being very often associated in children.

In treating this form of bronchitis the irritation of the mucous membrane of the larynx, the fact that the coughing-fits contribute markedly in maintaining and in increasing this irritation, and the existence of gastric catarrh, must all be borne in mind. The aim, therefore, must be to directly diminish the irritability of the laryngeal lining membrane, to lessen the tenacity and viscosity of the sputa, and so render the coughing-fits less violent, prolonged, and frequent, and, finally, to relieve the gastric catarrh. The first indication may be fulfilled by the use of belladonna or bromide of potassium; the second, by the employment of alkalies, such as alum, the bicarbonate of potassium or sodium and chloride of ammonium, and these alkalies, together with an appropriate diet and the application of counter-irritants to the epigastrium, are at the same time instruments for the relief of the catarrh of the stomach.

If there is fever, the child must be confined to bed, one or two teaspoonfuls of liquor potassii citratis administered every three hours, and at the age of six years one-twelfth of a grain of extract of belladonna, or from two to four grains of bromide of potassium, at equal intervals. The diet should be readily digestible,—meat-broths, eggs, and milk with lime-water; the bowels must be regulated, if necessary, by an occasional saline, and a sinapism placed upon the epigastrium twice daily for a sufficient length of time to redden the skin. When the fever has disappeared, or in cases in which there is little fever, the patient should still at least be kept within-doors, if not in bed; flannel under-clothing and worsted stockings should be

insisted upon, a nutritious and digestible diet ordered, the bowels regulated, and belladonna or bromide of potassium in combination with one of the alkalies, preferably alum or chloride of ammonium, prescribed. Reddening the upper part of the chest anteriorly by a mustard plaster applied in the morning and evening will also aid materially in reducing the frequency and violence of the paroxysms of cough. After the coughing-fits have lost their spasmodic character, the continuance of a simple chloride of ammonium mixture, with care in avoiding exposure and in regard to food, is sufficient to complete the cure. Too much stress cannot be laid upon the advantage of keeping cases of bronchial catarrh, of whatever form, in bed, for by this means not only are sudden changes of temperature avoided, but the activity of the skin is maintained, and this assists greatly in the process of recovery.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINIC OF LOUIS A. DUHRING, M.D., PROFESSOR OF DERMATOLOGY.

ECZEMA ERYTHEMATOSUM, ICHTHYOSIS, TINEA VERSICOLOR, IMPETIGO—ECZEMA, LUPUS VULGARIS.

ECZEMA ERYTHEMATOSUM.

THE patient, a married woman of 45, presents, as you see, patches of diseased skin in various portions of the body, one over the chest being most marked in its general characters. The skin here is red, infiltrated, thickened, and covered with fine scales in some places, while in others it is quite smooth. In outline the patch is very irregular and shades gradually into the surrounding healthy skin. No region of the body appears quite healthy, but the disease is more fully developed in certain localities, as the chest, arms, back, the inside and back of the thigh, and less well marked down towards the ankles. On the scalp the skin shows intense redness and infiltration with copious desquamation. There are no enlarged glands in the axillæ, though according to the patient's statement these were increased in size some time ago. The inguinal glands are decidedly enlarged and engorged. Subjective sensations of itching and burning, particularly the latter, are present to a marked extent. The pa-

tient gives a very brief and incomplete history of her trouble. She has always until lately enjoyed good health. The affection made its appearance nine months ago; the skin began to itch, grew rough, and within a few days an eruption broke out, which at first was moist (there was much "weeping," she says), but later became dry. This eruption consisted of "watery pimples" which appeared first on the chest and back of neck, and thence spread until nearly all the body was involved.

The history of this case, imperfect as it is, presents several points of interest. The account which the patient gives of the appearance of "watery pimples," or vesicles, appearing and breaking down is conclusive as to the nature of the disease. We have here eczema, which, though not vesicular at present, evidently assumed that character at first. Eczema is a protean disease, at one time showing itself in the form of vesicles, at another stage in that of papules, etc., all in one case. Whatever the eruption may have been some months ago, it is now erythematous eczema, and an unusually well marked case. We seldom have this form of disease so extensively distributed as in the present instance. On the scalp there is a preponderance of scales: the affection in this locality might perhaps be termed eczema squamosum. On the other parts of the body there are scales also, it is true, but not enough to justify the designation eczema squamosum. There is an evident tendency to moisture about the axillæ, and no doubt the disease was discharging a few weeks ago. The subjective sensations, though not excessively severe, are annoying. They consist chiefly of a constant burning feeling throughout the affected areas, with occasional severe attacks of itching, especially at night, when the patient is warm in bed.

The treatment in this case must be both constitutional and local. Internally I shall order the following mixture:

R Magnes. sulph., ʒi;
Sodii sulph., ʒiii;
Potass. bitart., ʒii;
Aqua, fʒvi.

Sig.—One tablespoonful with a tumblerful of water before breakfast.

Locally, black wash will be used for two or three days, applied twice daily, followed, at the expiration of this period, by a mild calomel ointment, twenty grains to the ounce.

ICHTHYOSIS.

This little girl, who is about four years of age, has suffered from the affection, for which relief is sought, since she was eighteen months old. The appearance presented is that of a dry squamous eruption extending over pretty much the entire surface of the body and limbs. The face, hands, and feet, as well as the axillæ and folds of the elbows and knees, appear to be entirely free. As we come from the upper part of the body to the lower the scales become thicker and coarser, as well as rougher and more abundant.

We cannot expect in a case like this to obtain a clear and detailed history; the child's mother tells us that none of the immediate family have been similarly affected, although a cousin is believed to have suffered from the same disease. The affection, since its first appearance, has been getting gradually worse. It is more marked in cold weather. Bathing with soap and water makes it worse. No treatment has been employed.

These are the only facts which we have of this patient's history, and I will tell you, before going further, that the case is one of ichthyosis. Ichthyosis is a disease, or rather a morbid condition,—the French class it as a deformity,—of the epidermis; at least it begins there as an hypertrophy, and that is the sole primary trouble. Later, and as a secondary affair, the papillary layer is involved. The affection varies in intensity in different cases; we may have every degree from a slight local roughness to the most severe condition of scalliness over the entire body. The case before us is already quite a marked one, and will be much worse as the patient grows older.

The treatment of ichthyosis is entirely palliative and external. Experience has shown that little or no good can be expected from internal remedies, and these, with the exception of arsenic, which is recommended by some authors, are scarcely ever employed. Frequent bathing with the use of soap, and followed by inunction with some fatty or oily material, as diluted glycerine, or petroleum ointment, will serve to keep the skin pliable and soft. In mild cases frequent bathing alone is sufficient.

TINEA VERSICOLOR.

This man presents an eruption which may be seen spreading over the body to a considerable extent. Commencing at the

neck, it is diffused over the arms, chest, and back. It does not extend below the navel and groin to any great degree, although it may be observed in a more or less scattered form over the thighs also.

The disease is so faintly marked that were this gaslight you would scarcely notice anything whatever abnormal in the appearance of the skin, and you would hardly be able to make a diagnosis by simple inspection. As we see it now by the full light of day, the disease consists of pale yellowish patches, varied in size, coalescing over some portions of the body, and in others, especially near the borders of the affected surface, occurring in scattered spots.

It is not raised above the surface, or at least only very slightly so, and is somewhat squamous in its character. Our patient is a man of very cleanly habits, and scrubs himself diligently two or three times a week, thus keeping the disease in check. The affection before us is a local one, and is due to a vegetable parasite. Beginning by a small patch, perhaps not larger than a pea or a dime, it gradually spreads; several small patches coalesce and form a larger one, and so the disease progresses.

Observe the peculiar pale yellowish-brown, buff, or fawn color of the eruption; this may be a lighter or darker shade.

Our patient says he has had the disease ten years; this is not unusual, since, unless treated properly, the affection may last indefinitely, although occasionally a case gets well without medical assistance. There seems to be but little itching in the case before us. The presence of itching as a symptom of the affection varies greatly in different cases. Sometimes this sensation is severe; in other instances, as the present, very little or no itching is felt. The disease does not extend below the horny layer of the epidermis; and when the fungus is destroyed, it will get well, though liable to relapse.

We shall order this man to take a warm bath every evening, scrubbing himself well with brown soap, in order to rub off some of the epidermis, and then apply the parasiticide. In the present instance we shall use the following:

R Sodii sulphit., 3j;

Adipis, ʒj. M.

This is to be rubbed into the skin thoroughly, and allowed to remain until the next bathing.

1*

This treatment is to be kept up for some days. The cure of the affection may be accomplished in a few weeks, or it may take several months, depending on the luxuriance of the fungus.

IMPETIGO—ECZEMA.

The patient, a young man, has, as you see, been stripped quite naked and shown to the class in that condition. The advantage of examining cases in this way—which, in the case of a male, can always be managed—is very great. The distribution of the disease may thus be studied to advantage, and many lesions seen to which the patient himself may fail to draw attention. The eruption presents a multiform appearance, consisting of pin-head and larger papules, as well as pustules of various size. It is most marked, as you observe, over the abdomen, buttocks, thighs, and forearms; less so on the chest, and is very slight on the arms and legs. The patient states that a week ago there were many more pustules, but no papules. Let me draw your attention to the fact that both papules and pustules are present. We no longer classify skin diseases as papular, vesicular, pustular, etc., since we often find these lesions succeeding one another in the same case, or even occurring simultaneously. In scabies, for example, the papule may be the first lesion: this may become transformed into a pustule, and this pustule may become crusted over. In the present case we see that the more recent eruption consists of papules, while the older lesions are pustular. We have here a case of impetigo which is running into eczema. A week or two ago the pustular element was much more prominent; now this is almost extinct, and the eruption is more papular. This is unusual and gives the case peculiar interest. On questioning the patient we find that the eruption itches. This is one sign of its eczematous character. Impetigo never itches. Impetigo is most common among children. In men it is usually observed as a result of unfavorable hygienic conditions. Sailors often suffer from impetigo as a result of hardship. The affection is a quite curable one. Under favorable conditions it will get well in a week or so.

Regarding the diagnosis. The affection as here presented shows a close resemblance in some respects to scabies, but its history is different. Usually the dis-

tribution of the eruption aids the diagnosis. Ordinarily scabies begins in one spot, as the hand, creeps slowly up the arm, and so goes from part to part. The penis is a place of election for scabies; being handled so frequently during micturition, the insect escapes from the hand. A single insect is usually the source of infection, ordinarily a pregnant female, which, transferred from an infected person, lodges in the skin, burrows, lays eggs, and then the new insects hatch out, and thus the disease spreads. Scabies is very commonly found on the buttocks in persons leading a sedentary life. The most characteristic sign of scabies is the burrow, a black line of a hair's breadth and perhaps a line in length. These various signs of disease are absent in the present instance, the affection being, as has been stated, impetigo. The treatment is simple. Baths of carbonate of sodium (four ounces to the bath), with an aperient tonic internally, such as I have prescribed for the case of erythematous eczema, will be recommended.

LUPUS VULGARIS.

The patient is a young man of 22, a cabinet-maker by trade, born in Pennsylvania, of foreign (English and Irish) parentage. There is no family history of disease, excepting that his mother's sister died of consumption. His own health has always been and continues to be, in general, good.

The eruption for which he seeks relief is composed of two patches of disease, situated on either side of the face. These were first noticed when the patient was not more than two years of age; at that time they were no larger than pea-size, but they gradually and steadily increased in area until in his tenth year, at which time he remembers first to have noticed them. The larger one was then the size of a cent (1.5 cm. in diameter). From that time the patches increased under the patient's observation until he was seventeen or eighteen years of age. Since then they have remained unchanged. The eruption has made no progress in the last five years.

Examination shows two patches of disease unequal in size and shape. One of these is situated on the middle of the right cheek, of a roundish oval shape, about the size of a half-dollar, papular and tubercular in character, rising somewhat abruptly from the surrounding skin to the height

of 1-2 millimetres, the surface irregular and higher about the border than in the centre. On closer inspection the lesion is seen to be made up of a number of papules and papulo-tubercles of various size, which have coalesced at their edges, and, to a considerable degree, merged into one another. These papules are of a dusky brownish-red color, scantily covered with minute grayish scales easily detached and showing when removed a dry surface beneath. In the centre of the lesion some of the diseased skin has been removed, in part probably by absorption, in part by the action of remedies, leaving small, irregularly radiating scars here and there. The surface in the centre of the patch is thus lower than that about the periphery; where, also, the disease process appears at present most active, giving a somewhat circinate effect to the lesion viewed as a whole.

The second lesion, situated over the angle of the jaw on the left side, is oblong and rather squarish in outline; it is about three centimetres long by one centimetre wide, and is composed of papular lesions fused together. It is only slightly raised above the surface at any point, and in most parts is, in truth, sunken below it, owing to absorption of the new growth. In general color it resembles closely the lesion upon the right cheek. There is little or no itching or burning in the lesions, even when the patient becomes heated.

Lupus vulgaris is a rare disease in our country, and does not often occur in this clinic. In the present instance the characters of the disease are so well marked that they should be attentively noted, with a view to distinguishing this affection from the two others which most resemble it,—namely, epithelioma and the tubercular syphiloderm. The differential diagnosis between these diseases is sometimes a matter of no little difficulty, but there are certain characteristics of each which should be kept in mind. Thus, in epithelioma the affection is usually localized in a single spot; it is painful; the lesion is often made up of smooth, pearly nodules. When ulceration takes place, more tissue is usually destroyed than in lupus, the ulceration going deeper. It starts, usually, from one point and spreads upon the periphery, while the ulceration of lupus begins at several points within the patch. Finally, the history of lupus almost always points to its beginning in early life, while

epithelioma originates in adult life, and usually beyond middle age. In the tubercular syphiloderma, aside from the history of infection, the papules and tubercles are larger and firmer, the general tint of the eruption is a dusky ham-color, while that of lupus vulgaris is rather of a yellowish-brown shade. When the lesions ulcerate, the syphilitic ulcer is apt to be single, deep, excavated, suppurating freely, while that of lupus, as has been said before, is multiple, often shallow, and scantily secreting.

The course of lupus vulgaris is exceedingly chronic, and in the more stubborn forms, as frequently met with abroad, cases may frequently be seen which have for years been under the best treatment in hospitals. On the other hand, in the milder forms of the disease, such as are usually encountered in this country, proper treatment is often successful. In some cases internal treatment, as cod-liver oil and iodide of potassium, acts most beneficially. In other instances, as in the present case, where the disease is circumscribed, local treatment—cauterization, etc.—is preferable. The treatment which shall be adopted with this patient is erosion, by means of the curette or sharp spoon, a procedure first adopted by Volkmann, a German surgeon. I here show the instrument to be employed, a small round steel spoon about a quarter of an inch in diameter, and attached to a handle. In order to prevent undue pain from the operation, local anæsthesia shall be employed, with the aid of rhigolene spray, projected against the part to be operated on, with a hand-ball atomizer. The larger patch having been frozen, and being kept insensible by the rhigolene spray during the operation, I now scrape all the diseased tissue thoroughly away, going down as deeply as possible in order to include every part of the lupus infiltration. The operation is quite painless. The wound shall be dressed with a simple water dressing; later, with a bland ointment.

PENNSYLVANIA HOSPITAL.

RUPTURE OF URETHRA—URINARY INFILTRATION.

Reported by H. M. WETHERILL, M.D.

GEORGE D., æt. 42, single, was admitted to the Surgical Ward of the Pennsylvania Hospital April 26, 1880. This man was the subject of acquired

syphilis, and several years ago he had gonorrhœa, which left him with a urethral stricture of a very troublesome character. He had suffered from dysuria for the previous three years. Lately the stricture had been so tight that he had had the greatest difficulty and pain in micturition. The stricture was situated far back in the membranous portion of the urethra.

Forty-eight hours before his admission to the hospital, while attempting to urinate, and while making violent straining efforts, he suddenly felt something give way in his perineum, at once followed by very severe burning pain, which involved not only the perineum, but also the hypogastric, inguinal, and scrotal regions, and extended along the under surface of the penis. The scrotum now swelled enormously, and the pain continued, increasing rather than diminishing. Since this time he had passed no urine externally.

Upon admission, the patient was exhausted by pain and sleeplessness; the bladder was rather distended, and the scrotum was swollen to the dimensions of a small cocoa-nut, and was firm, glistening, dusky red, painful, and hot. In the perineum, to the left of the raphé and immediately behind the scrotum, was a firm swelling about the size of a walnut: this was also red and painful, as was the entire perineum, but no fluctuation could be detected. All of the adjacent tissues were much infiltrated; the testicles could not be felt, and an attempt to pass a catheter into the urethra failed on account of the infiltration of the tissues of the penis, blocking the urethra. Upon the left, lower, outer part of the scrotum was a round dark patch of integument which was about to slough. A deep incision was made into the perineum upon either side of the raphé, near the scrotum, from which flowed much dark blood having a highly urinous odor; but no pus was seen. Warm-water dressing applied. It being found impossible to reach the bladder with the catheter, the attempt was abandoned. Very little relief was experienced from incisions in the perineum.

Upon the following day he was much prostrated; the patch of integument had sloughed away from the scrotum, and the urine was escaping from it in drops, no urine having flowed by urethra since its rupture. The patient was carefully etherized, and a deep incision was made low

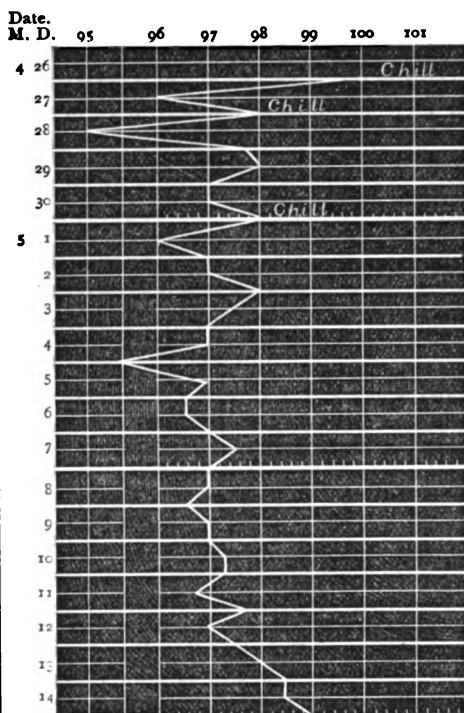
down upon either side of the median line of the scrotum anteriorly, from which flowed very freely blood, urine, and pus of a very offensive character. The patient experienced immediate relief, and the bulk of the swelling was much reduced. Exploration with the finger failed to discover the testicles. The wounds were packed with tents of carbolized lint, and the scrotum was elevated. Ordered whisky, f3iv, quinia, gr. viii, daily.

Upon the 6th of May—ten days after admission—it was noted that about one-half of the urine flowed from the openings, the remainder in the natural manner through the penis. By the 20th the deep incisions in the perineum had healed, those of the scrotum granulating rapidly. No urine then flowed from the wound in the right side of the scrotum, but that of the left side was a urinary fistula, through which about one-fourth of the urine flowed. In about ten days more all the wounds had cicatrized, with the exception of a small puckered orifice in the left side of the scrotum, through which escaped a little urine in drops during each act of urination. This showing no disposition to close under ordinary stimulating applications, a soft catheter was passed into the bladder without much difficulty, tied in, and allowed to remain for four days. A stick of nitrate of silver was passed into this fistula to a depth of three inches, and the external opening was dressed with compound resin cerate. Upon the fourth day the catheter was withdrawn, and subsequently no urine passed from this tract. It healed rapidly.

The patient remained after this for several weeks in the hospital, when he was discharged cured, no opening of this fistula occurring. He still had a stricture, with considerable thick dense cicatricial tissue at the point of rupture in the membranous portion of the urethra; but he was much pleased to discover that his misfortune had not involved the integrity of the testicles.

I have had but three cases of urinary infiltration under my charge, but they showed well the effects upon the system of poisoning by urea, notably that of reduction of the temperature of the body notwithstanding a coexistent amount of local inflammation and suppuration sufficient to justify a considerable amount of irritative fever. A glance at the accompanying chart of tem-

perature in the case above described will serve to illustrate this remarkably well.



Forty-eight hours after escape of urine into connective tissue the temperature was 100°; a chill occurred, and, the blood by this time carrying urea, the temperature fell, instead of rising, to a point far below the normal. His worst symptom was a low temperature, which seemed to bid defiance to the most active efforts to warm and stimulate him; and this condition continued in the face of an amount of local irritation which involved the genital organs and the entire perineum and a discharge of pus which amounted to many ounces daily. After the establishment of a free drain for all effete and poisonous matters, and after the system had found time to throw off the effects of the absorbed poison, the temperature gradually rose to the normal point, and even exceeded this for a few days, but quickly returned to the neighborhood of 98.5°, and the patient slowly convalesced.

1237 ARCH STREET.

FOR orthopnoea due to defective heart-action, free purgation, with the hourly administration of digitalis and nux vomica, is recommended by Dr. H. Cook.—*Practitioner.*

TRANSLATIONS.

THE INDELIBLE VESTIGE OF CHANCRE.
—In a notice of a brochure on this subject by Dr. Leon Montaz (*Le Progrès Médical*, 1881, p. 548), Dr. Malherbe says that the interest attaching to the retrospective diagnosis of chancre is so great that his conclusions are worthy of notice. Montaz asserts that every chancre leaves an indelible scar, while chancroid does not necessarily do so. This is curiously opposed to the doctrine formerly in vogue, which was precisely the reverse. To state Dr. Montaz's case more exactly, he asserts that chancre leaves behind it sometimes a cicatrix, when the ulceration has been excavated, and particularly when it has been phagedænic, sometimes a slight depression, when the ulceration has been merely at the expense of the erosive papule, that tissue designated by the rather bad but convenient term "syphiloma." Montaz quotes Horand, Guibout, Langlebert, and Jullien as partaking more or less of his view, while Ricord, Rollet, Clerc, Fournier, and others are disposed to admit the total disappearance of the chancre. Montaz considers Fournier to lean to the latter view because most of his experience has been with women, where the trace of former chancre is particularly difficult to make out. Fournier, however, must have met with many chancres on men in his large private practice: so that the reason given will not altogether account for his point of view.

The classic doctrine of the complete disappearance of all trace of chancre in every case is, however, in the opinion of *Le Progrès Médical*, too absolute. Chancroid is doubtless destined before very long to disappear from ordinary observation: it becomes rarer every day. As to chancre, it must not be forgotten that this is infinitely variable in area, depth, and even in aspect, and the vestige which it may leave behind may vary greatly as the ulceration may have been shallow or deep. Dr. Montaz gives notes of more than one hundred cases of recent or old syphilis where the vestige of the chancre was to be found.

The critic, however (Dr. Malherbe), thinks that the observation was in many of these cases made too early, even before the induration had entirely disappeared. Others were cases of working-people, when the sore might have been irritated by neglect. Montaz concludes by a chapter on

the medico-legal aspect of the vestige of chancre; but he is, in the opinion of his critic, too sanguine here.

TREMORS CURED BY THE GALVANIC BATH.—At a recent meeting of the Société de Thérapeutique (*Bull. de la Soc. de Thérap.*, 1881, p. 123) Dr. M. C. Paul read a paper on this subject, in which he alluded to fourteen cases previously reported by himself, and added several others of a confirmatory character. These included cases of mercurial trembling, chorea, paralytic ataxia, scrivener's palsy, and trembling of the hands caused by sclerosis in patches. All were greatly benefited.

Speaking of the characteristics of mercurial tremor, Dr. Paul says that its onset is sudden and unexpected. The patient perceives that his arm has failed him, and from this moment the tremor invades successively the left arm, and then first one leg and then the other. It preserves during its whole course, and until cured, three characters. 1. The onset is sudden. 2. The tremor is continuous; once having appeared, it does not cease. 3. It is progressive, the interval between its extension from one limb to another being very brief, though it is longer between the upper and the lower members. In one case the attack first involved the masseter; but this is rare.

In alcoholic tremor the course of the affection is quite different. It is slow, progressive, and proceeds by successive attacks. Thus, the day after a debauch the patient observes that his hands tremble and fail, but after the effect of the debauch has passed off the tremor disappears. At a subsequent debauch the tremor again appears, lasting this time a little longer. At each new attack the tremor lasts a little longer, until at last the drunkard cannot work. Although slight alcoholic tremor is not rare, yet tremor to such a degree as to prevent work or locomotion or eating is rare.

Both mercurial and alcoholic trembling are amenable to treatment by the galvanic bath. But, while twenty-five baths are required to cure mercurial tremor, six to eight are sufficient to cause alcoholic tremor to disappear. Dr. Paul thought it worth while to remark thus regarding these two affections because they are so comparatively little known.

TREATMENT OF CHANCROID BY APPLICATIONS OF PYROGALLIC ACID.—MM. Ler-

moyer and Hitier in an article on this subject (*Bull. Gén. de Thér.*, vol. c., 1881, p. 403) allude to the experiments of Terrillon, who found pyrogalllic acid to take a place between nitrate of silver, which rarely does good and often aggravates the sore, and iodoform, which is efficacious but slow in its action, and the powerful and disgusting odor of which renders its employment extremely repulsive.

During three months all the chancroids coming under Dr. Terrillon's care were treated with pyrogalllic acid, and with such good effect that this topical application has entirely superseded nitrate of silver and iodoform.

Lermoyer and Hitier, working under Terrillon, have abandoned the formula introduced by Vidal (vaseline, 4 parts; pyrogalllic acid, 1 part), as liquefying too rapidly in contact with the body; they make a firmer ointment, as follows:

℞ Pulv. amyli, ʒijss;

Vasellini, ʒj;

Acidi pyrogallici, ʒijss. M.

This pasty mixture applies itself thoroughly to the diseased parts without becoming liquefied. The admixture of starch does not in any way affect the activity of the pyrogalllic acid.

In order to be of benefit, this ointment should be freshly made, and it should be kept in a tightly-stopped bottle, for it absorbs oxygen from the air very readily and becomes brown. When thus discolored it acts less satisfactorily and also at times excites pain. A single application daily is sufficient. If more than one is required, it is not because of the malignity of the chancroid, but because of its position. Thus, in women a chancroid of the fourchette is much more rapidly curable than a chancroid of the anus. On this account one application per diem is sufficient for the former, while the chancroid of the anus requires two at the least. In cases of virulent buboes much pain is caused by the pyrogalllic acid ointment; nevertheless the sores heal very rapidly. In fact, the rapidity of cure in all chancroids treated by means of pyrogalllic acid is something remarkable.

METHOD OF PRESCRIBING RESORCIN, SCLEROTINIC ACID, AND PICRONITRATE OF QUINIA.—Resorcin may be given in mild cases, or when prescribed for the first time, to the amount daily of fifteen to thirty grains; in severe cases, or after trial of

the smaller dose, in doses of forty-five to seventy-five grains in three ounces of water. It is best to give this in divided doses, so as to guard against toxic effect. It is only when the medicine has been taken for some time in moderate doses without toxic symptoms, and when the amount of septic material is quite considerable, that larger doses are to be given. When given in a fluid form, the best vehicles are alcohol, glycerin, and syrup of oranges. When possible, the disagreeable taste of resorcin is best masked by giving it in powder, either in wafers or gelatin capsules. The following formulæ will be found convenient:

1. ℞ Resorcin. puriss., gr. xv ad xxx; aquæ destillat., fʒij; syrupi aurantii corticis ad fʒiv. M. Sig.—A tablespoonful every second hour.

Emulsion:

2. ℞ Emuls. amygdal. dulcis, fʒv ad fʒij; resorcin. puriss., gr. xv ad xxx; syr. aurantii flor., fʒj. M. Sig.—Tablespoonful every second hour.

3. *Powders:*

℞ Resorcin. puriss., gr. vss ad vijss; put in a bread wafer. Take one every second hour.

For dressings:

One and a half per cent. resorcin gauze. Every kilogramme of the gauze contains fifteen grammes of resorcin previously dissolved in four hundred and fifty grammes of alcohol and one hundred and fifty grammes of glycerin. One kilogramme equals thirty metres of gauze: it is put up in five packages.

Three per cent. cotton is made of one kilogramme of cotton batting, containing thirty grammes of resorcin previously dissolved in one hundred grammes of alcohol and seventy grammes of glycerin. Each kilogramme is divided into four packages, every one containing two hundred and fifty grammes of cotton.

Resorcin spray:

℞ Resorcin. puriss., ʒiv; aq. destillat., Oij. M.

It may be remarked, in passing, that resorcin is peculiarly fitted for use in disinfecting surgical instruments, as it has no effect upon steel, as salicylic acid has.

Sclerotinic Acid:

1. ℞ Acid. sclerotinic., gr. xv; aquæ destillat., ʒiiss ad ʒiv. M. For subcutaneous injection.

2. ℞ Acid. sclerotinic., gr. xv; aquæ des-

tillat., ℥iij; syr. aurantii cort., ℥j. M. Sig.—Tablespoonful every third hour.

Picronitrate of Quinia:

R Quiniæ picronitrat., gr. iij ad vj; sacch. alb., gr. viij. M. One powder every two or three hours.—*Deutsche Med. Wochens.*, 1881, No. 16.

A CASE OF PURPURA FOLLOWED BY DIABETES MELLITUS.—Dr. Otto Seifert (*Deutsche Med. Wochens.*, 1881, No. 17) reports the case of a girl of 10 with a healthy family history, who, while convalescing from a light attack of diphtheria, was attacked by purpura coming on in onsets, accompanied by epistaxis. When examined by Dr. Seifert on June 4, for the first time, the purpura had been present four or five days. The patient did not look ill. The cheeks were red, though the face elsewhere was pale. There were a number of well-marked purpuric patches here and there over the face, slight bleeding from the alveolus of a tooth, the right upper canine, which was absent. The body generally was strewn with pin-head to pea-sized ecchymoses, sometimes grouped together in patches. Physical examination showed the thoracic organs intact. The area of cardiac dulness was, however, somewhat increased. The pulse was full and regular. Temperature normal. The urine was of a dark brownish-black color, containing blood and albumen in quantity.

The patient was placed upon the tincture of the chloride of iron. The next day an ophthalmoscopic examination, which showed extravasations in the retina on both sides. During the days following the general condition of the patient remained the same, while the hemorrhage from the alveolus went on uninterruptedly in spite of tampons, etc. Later, bleeding from other portions of the gums occurred. They were at no time swollen, however.

Examination of the blood by the microscope showed the relation between the white and red corpuscles to be normal. The latter showed less tendency to form rouleaux than usual. Microscopic examination of the urine showed numerous red blood-corpuscles of normal contour, but pale and slightly swollen. Single white blood-corpuscles were also observed. The stools were dark.

On June 9 the urine when examined was found to contain sugar, the purpura in the mean time growing less marked, the bleeding from the mouth ceasing, and the pa-

tient's general health improving. The patient was placed upon meat diet and cared for assiduously in the hospital. Salicylate of sodium was also administered, and, after some drawbacks, in part due to premature departure from the hospital for a period, she was completely restored to health, and has remained so up to the time of reporting.

The two chief points of interest in the case are, first, the occurrence of purpura as a sequela of diphtheria; and, second, the probable occurrence of small hemorrhages into the medulla oblongata,—hemorrhages which, though slight in themselves, probably gave rise to lesions of the nervous tissue at that point of a more permanent character. This would account for the persistence of the diabetes long after the disappearance of the purpuric symptoms.

CONTRIBUTIONS TO THE KNOWLEDGE OF HEREDITARY SYPHILIS.—O. Heubner (*Cbl. f. Med.*; from *Virchow's Archiv*, Bd. lxxxiv. p. 248) gives a clinical and anatomical analysis of two rare cases of hereditary syphilitic bone-trouble combined with articular and periarticular suppuration. The first case, which was the one most carefully observed, presented at first the appearance of an ordinary case of hereditary syphilis of slight character. The specific symptoms first began to show themselves at the end of the third month. These partially disappeared under appropriate treatment. Soon after, peculiar rheumatoid articular lesions began to show themselves, which first consisted in extremely painful swellings of the joints. Multiple purulent collections occurred in the neighborhood of the various diseased bones, and in one joint in addition which had previously escaped. Death took place at the end of the fourth month. Histological examination of the diseased bones showed that peculiar osseous affection first accurately described by Wegner. Heubner points out the comparatively slight increase in the cells involved in comparison to the very marked proliferation of the cartilage-cell columns in the growing portions of the epiphyses, and conceives the process as being not an actively, but a passively, inflammatory one. As regards the connection between the specific bone-disease and the articular and periarticular suppuration, Heubner, in opposition to earlier writers, looks upon the articular disease, not as an immediate result, but as

a relatively rare complication of the epiphyseal affection, the latter affording the predisposition on which the articular trouble is based.

A case of severe pachymeningitis hæmorrhagica developing in an hereditarily syphilitic child at the end of the eleventh week, increasing in severity, and carrying off the patient in its twenty-second week, is regarded by Heubner as syphilitic on the somewhat insufficient ground that a simultaneous skin-trouble disappeared under specific treatment.

ABSCESS OF THE TIBIA—TREPANATION—CURE.—Dr. Heurtaux, of Nantes (*Revue de Thérapeutique*, 1881, p. 291), gives the case of a woman 43 years of age, enjoying good general health, without scrofulous or syphilitic history, who received a blow on the crest of the left tibia. She felt severe pain at the moment in the bruised spot, and this augmented week by week until her entry into the hospital. On examination there was neither redness nor swelling, but the patient complained greatly of pains, much worse at night, the limb extremely sensitive to the touch, and the pain aggravated by pressure. The general condition remained good. There was, however, a sudden aggravation of the local symptoms,—redness, increase of pain, swelling, extending to the whole limb, including the foot; no fluctuation; insomnia, loss of appetite, pulse 100 to 112. Dr. Heurtaux, having diagnosed osteomyelitis of the tibia, performed the following operation. The soft parts were incised to the extent of six or seven centimetres; the periosteum was incised in its turn and then turned back to the right and left; there was no pus found underneath, but the bony surface was roughened. A trephine was applied at the point where the maximum of pain was felt, and a small quantity of phlegmonous pus escaped.

Some days later an abscess formed in the soft parts, which healed rapidly after a single incision. Afterwards new signs of osteomyelitis of the lower portion of the leg appeared. A second operation, similar to the first, was practised at this point, the results of which were not less happy. The patient was entirely cured.

INTRA-SPLENIC INJECTIONS OF FOWLER'S SOLUTION IN HYPERTROPHY OF THE SPLEEN.—Prof. Mosler, of Greifswald, has treated a chronic enlargement of the spleen by means of parenchymatous injections of

carbolyzed water and Fowler's solution. The action of the contractile elements of this organ is first to be stimulated by the application of means designed to affect them directly; then, for several hours previous to making the injections of Fowler's solution, poultices of ice are to be applied over the splenic region. In Mosler's opinion, parenchymatous injections produce much more marked effects than the internal use of the same remedies.

Certain precautions must be taken. 1. If the splenic tumor is a hard one, it makes no difference whether or not the hemorrhagic diathesis or extreme anæmia coexists. 2. The preliminary precautions above mentioned should be taken. 3. Fowler's solution is the best medicine to use. Mosler reports several cases, in one of which benefit was obtained after half a syringe and then a whole syringeful of Fowler's solution had been injected!—*Allg. Med. Cent. Zeit.*

THE COEXISTENCE OF OVARIAN CYST AND UMBILICAL HERNIA FROM THE POINT OF VIEW OF OVARIOTOMY.—H. Cazin (*Cbl. f. Chir.*, 1881, p. 429; from *Bull. Gén. de Thérap., Méd. et Chir.*) says that the want of observations on the concurrence of umbilical hernia with ovarian cyst induces him to publish two cases, of which the first, that of a woman 72 years of age who died of exhaustion, showed, in addition to a multilocular cyst, firm adhesions of the contained parts in the hernial sac. A second case was that of a woman of 34, who had suffered with an umbilical hernia since her second labor, and in whom an ovarian tumor had appeared after her fourth confinement. After puncture and drainage, a multilocular cyst of the left side, weighing twenty-nine kilogrammes, was removed by abdominal section. Pieces of considerable size were then excised from the walls of the hernial sac, and the abdominal wound was closed. The patient recovered, and subsequently underwent normal confinement. Cazin speaks of the harmlessness of the incision of large portions of the peritoneum, and says that umbilical hernia is no contra-indication for ovariectomy.

SEPARATION OF THE EPIPHYSES IN HEREDITARY SYPHILIS.—Veraguth (*Cbl. f. Chir.*; from *Virchow's Archiv*, Bd. lxxxiv. p. 325) says that while Wegner, Waldeyer and Kobner, Charrin and Parrot, place the chief seat of epiphyseal disease in hereditary syphilitic disease in the bones,

and have observed the separation of the epiphyseal portion at the border of the bone, Haab, in 1875, reported two cases in which the separation unquestionably took place in the cartilage itself, and, indeed, proceeded chiefly in its proliferating zone. Veraguth contributes two similar cases, where, in like manner, the rift occurred in the cartilage and not on the osseous boundary, and was dependent upon a fibrillar division of the basis-substance on the one hand and abnormal proliferation of the cells on the other. Veraguth agrees with Haab in denominating this process chondritis syphilitica.

NEW TREATMENT FOR FISSURE IN ANO.—Dr. Aguilar (*Giornale Int. delle Scien. Med.*, 1880, Fasc. 8; from *Siglo Med.*), after having spoken of the frequency of this malady and the established methods of treatment, says that there are two elements in it to combat,—the constipation which accompanies and precedes it, and the lesions belonging to it. The former is overcome by podophyllin in doses of five centigrammes taken at night, and emollient and narcotic hip-baths, which relax the muscular fibres of the sphincter and calm the erethism. On the second day of treatment the whole anal orifice, as far as the internal sphincter, is painted, by means of a small feather, with a mixture of one hundred grammes of alcohol and forty-five of chloroform. This operation is repeated twice a day, morning and evening, preceded by a hip-bath. Pain during the application is quite severe, though by no means so great as in other procedures. The history of four cases successfully treated by the above method is appended. x.

COMPLETE EXTIRPATION OF LARYNX, BASE OF TONGUE, VELUM PALATI, AND TONSILS (Dr. Caselli, *Giornale Int. delle Scien. Med.*, p. 825; from *Italia Medica*).—The patient was suffering from a "granuloma" (?) which had invaded and diffused itself throughout all the larynx, pharynx, and base of tongue. Here and there there were circumscribed foci of caseous degeneration, and crateriform ulcers existed at the pharynx and base of the tongue. The operation was performed with antiseptic precautions. The hyoid bone was left intact, thus preserving the nerves, arteries, and muscles to the stump of the tongue. The galvano-cautery was used, and an instrument (the writer does not describe it) of the operator's own device subsequently

applied. The power of speech was regained; and deglutition was not impaired by the operation. x.

AMMONIO-SULPHATE OF COPPER IN NEURALGIA.—Dr. Féréol again urges the employment of the ammonio-sulphate of copper in stubborn neuralgia, but, to avoid the disagreeable taste of the medicine, he now administers it in bread wafers. His formula is as follows:

R Cupri ammonio-sulphat., gr. $\frac{1}{3}$;
Bismuthi subnitrat., gr. iv. M.

Enclose in a *cachet de pain* (bread wafer) for a single dose.

Five of these are to be taken daily while eating. The amount taken daily may be gradually increased to ten doses, care being taken to swallow the powder during a meal or after having swallowed a glass of milk, to avoid the direct action of the salt upon the stomach. Ordinarily patients fail to taste the disagreeable savor of the medicine; at times, however, sickness of the stomach supervenes, so that it must be stopped.—*La France Médicale*, 1881, vol. ii. p. 41.

THE CONTAGION OF TUBERCULOSIS.—Dr. Bollinger (*Giornale delle Scien. Med.*; from *L'Imparziale*) nourished some young pigs with the milk of a tuberculous cow, and, being killed a few months subsequently, they all, with one exception, exhibited pulmonary tuberculosis. In the exceptional case the milk had been boiled before its administration. From these experiments the author concludes that the milk of a cow may possibly, though not probably, be the cause of tuberculosis by absorption in man. Hence it would be better to drink milk of cows previously boiled, and never to use that from an old cow. He considers it safer to use goat's milk, this animal being rarely affected by the disease. x.

FATTY PLEURISY.—Dr. Debove (*Le Réveil Médical*, 1881, p. 466) observed the case of a man of 64, who had been ill for three months and who showed symptoms of pleurisy. Puncture was judged necessary. The liquid obtained was almost exclusively composed of oily granules and of scales of cholesterin. It contained only a few pus-globules. Dr. Debove says he has never met with a similar case. He does not consider the presence of cholesterin a proof of involvement of the liver, but thinks the oily material the result of fatty degeneration of the purulent effusion.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, OCTOBER 8, 1881.

EDITORIAL.

CONSULTATIONS WITH HOMŒOPATHS.

UPON the other side of the Atlantic the subject of the relations between "homœopaths" and "regulars" in the profession is attracting renewed attention, and some disposition seems to exist towards breaking down the barriers which have so long stood hard and firm between the two camps.

There can be no doubt that homœopathic belief is dying. Even homœopathic practitioners are growing proportionately fewer in the world; but real homœopathic faith dies far faster than do its nominal believers. Just as men who have lost religious faith often keep up some semblance of church connection, even so, or rather much more, does the homœopath often maintain his nominal position long after he has ceased to trust to homœopathy. There can be no half-way logical position in this matter. The doctrines of the psora and of the infinitesimals are so obsolete as not to be worth discussing. The dogma of the similars is the homœopathic treasure of to-day. Either it is a law of nature, or it is not a law. If it be a law, it can have no exceptions, precisely as the law of gravity has no exceptions. Now, when a homœopathic physician ceases to trust this law absolutely in his practice, he ceases to worship Hahnemann,—his God is no more God.

The modern race of homœopaths—almost all of them—use aconite in fever, or employ other remedies in ways and for purposes entirely contrary to the great last doctrine of Hahnemann, *similia similibus curantur*. The truth is that it is no longer

possible for a man of any intelligence, if educated, to believe in homœopathy, any more than it is possible for him to believe in allopathy. They are both exploded dogmas, easy to be recognized by all men as half-truths mistaken for whole truths.

Mustard may cause vomiting; when the vomiting already exists, it sometimes cures it, but sometimes makes it worse. Every old woman knows that a tumbler of warm water will sometimes provoke the sick stomach into further action, sometimes "settle it." When vomiting is from irritation, a sedative allays it; when from excessive depression, the sedative makes it worse, whilst the irritant causes it to cease.

We repeat, both homœopathy and allopathy are most dangerous errors.

These things being so, why cannot the "regular" meet the "homœopath" in consultation? The "regular" can and will meet the "homœopath" just so soon as the latter is ready honestly and fairly to meet the "regular." The scientific physician says, "I believe in no therapeutic dogma; I desire to get all out of science that I can to help me in the cure of diseases. But I recognize that science is yet very imperfect; and from Choctaw or Hottentot, from old woman or young maiden, from homœopath or allopath, from king or peasant, from savant or quack, I will eagerly seize aught which shall aid me in the battle for life." The moment that the "homœopath" takes this ground, that moment he is side by side with the "regular." It is no longer homœopathy or allopathy, but common-sense doctoring. But until the homœopath does this it is impossible for the two physicians to work together. If the homœopath is honest, the regular is yoking himself with one who is maimed and crippled by adhesion to an old and exploded fallacy; and Paul says most truly, "Be ye not unequally yoked."

If the homœopath is willing to sink his homœopathy, and, in fact, habitually prac-

tises something else than homœopathy, no honest man can meet him in consultation without smearing his own self-respect. To gain practice by taking advantage of popular ignorance and prejudice, and to ride into wealth upon a lie, is what no upright man can do; and to associate with a man that does this is dishonor.

This, it seems to us, is the whole matter in a nutshell. The general medical profession recognize that neither the doctrine of similars nor that of dissimilars is correct; and the moment any man comes to this conclusion, and honestly acts thereby, he is part of the regular profession, a peer of any. Until then he must occupy the position he now does.

VIVISECTION IN ENGLAND.

MOST of our readers are no doubt more or less acquainted with the act which was passed some years since in England for the regulation of vivisection. The law, even under a liberal construction, is calculated to lessen activity on the part of physiologists, but was not in the outset strenuously opposed by some of the leading savants of Great Britain, as it should have been. Indeed, it was looked upon by many as a judicious compromise. But, like most compromises, it has worked evil. In certain high quarters, including, it is whispered, even the sacred precincts of Windsor, all vivisection is considered to be a crime, and under this inspiration the Home Secretary has become more and more stringent in the granting of licenses, so that at present, except in a very few places, medical scientific research has come to a stand-still in Great Britain. Sir Jos. Fayrer, now Surgeon-General of the Indian Army, and Dr. Lauder Brunton, not long since desired at their own expense to investigate the action of cobra venom, but were refused licenses by the government, which shortly afterwards paid physicians in Calcutta to do work which they would not

allow abler and more experienced men to do at home,—a peculiar form of piety more easily matched in the English Islands than elsewhere. Not long since we met a man in the English Lake district, of a Sunday afternoon, complaining that his hay would be spoiled by the threatening weather of the coming Monday. On our suggesting that he should get it in at once, he was horrified at our impiety, though he was just then spending his Sunday in the public house swilling beer even unto advanced booziness. So the noble Home Secretary's conscience slept in Calcutta, but was as sensitive as a photograph-plate in London.

At the recent International Congress vivisection and bacteria were the lions of the hour; and if speeches, proclamations, resolutions, etc., can affect the British public, some alteration of the law next winter is to be looked for. As physicians and scientists we are of course interested in the trials of our brethren across the sea, and in the progress of medicine there as well as here; but we should fail in our shrewdness if we did not draw a moral from their sufferings, namely, to accept for ourselves no compromise, and to see, in the future even more zealously than in the past, that no legislation touching vivisection is allowed, certainly as no legislation is required or is politic.

CHICAGO'S DISGRACE.

PERHAPS the day will be when it shall be considered more honorable to educate a few medical students in America than to furnish a crowd of students—good, bad, and indifferent—with diplomas; but that day does not seem to have come yet. The *Chicago Medical Times* exults, instead of mourns, because last year twelve hundred medical fledglings fluttered into an already burdened world from our Western city. Mayhap it opines that mourning enough will be done in the

families into which these gentlemen first enter as guardians. The race for filling the pockets at the cost of the ruin of the profession and the injury of the people still continues,—indeed, grows hotter as Western schools come more into prominence. When will it be arrested by the law making, as it ought, the diploma of no value as a license, by taking away the right which such diploma now gives to practise?

THE death of the famous botanical physiologist and systematist, Prof. Schleiden, is announced. He was born at Hamburg in 1804.

CORRESPONDENCE.

LONDON LETTER.

THE condition of President Garfield still commands a great deal of attention here, not only in the medical world, but among non-professional persons. When there appeared multiple abscesses in the parotid gland, even those who held that he would "pull through" began to despair; for it seemed that the many troubles he would have to surmount would sooner or later sink him. When, however, the suppuration in the gland ceased to form new points of pus, then again hope became buoyant that his magnificent constitution, his high courage, judicious nursing, and consummate medical skill, all combined, would bring him through ultimately. When it was determined to remove him from the malarious atmosphere of Washington to his home at Long Branch, many were almost breathless at what seemed the audacity and venturesomeness of the enterprise; and a long-drawn sigh of relief was the evidence of suspense removed. Indeed, quite a throb of emotion passed over England when it was known that the long journey had been accomplished without any disaster or drawback. His subsequent progress has been watched with the kindest interest by a very large section of the British public. The medical management of the case has never been hostilely criticised, in my hearing at least; nothing but unqualified admiration have I ever heard expressed. Nevertheless, even those who are most sanguine recognize the fact that he "has some deep water to wade" before he is thoroughly out of the wood,—a rather mingled metaphor, perhaps, but intelligible notwithstanding. To those who have thoughtfully followed the case it is not matter for surprise that he should have had these com-

plications from time to time, but rather that they should not have been fatal sooner or later. However, as I write it is announced that he has been up in a reclining-chair for an hour without a rise in either pulse or temperature. No one can foresee what may have occurred by the time these lines reach the press,—convalescence may have been established, or some new complication may have arisen darkening the prognosis like a thunder-cloud in an April sky,—but, whatever occurs, the public of Great Britain will ever feel that in a terrible emergency the medical profession has acquitted itself with distinguished skill, and has deserved well of all.

The Annual Meeting of the British Medical Association at Ryde, in the Isle of Wight, went off satisfactorily. It was not anticipated that anything original or of great interest would be read or said. To the surprise of all, however, a very lively subject was raised by the readers of two addresses,—viz., Mr. Jonathan Hutchinson and Dr. Syer Bristowe, two eminent members of the profession. Mr. Hutchinson is well known as one of the ablest and most erudite of our surgeons. Senior Surgeon to the great East-end Hospital—the London—in Whitechapel, he is an accomplished "all-round" surgeon. His researches on syphilis, and especially his observations as to the effects of congenital syphilis upon the teeth, are familiar to all. Then he is surgeon to a skin hospital, and is eminent as a dermatologist,—indeed, is Professor of Dermatology to the Royal College of Surgeons. Further, he is a prominent member of the staff of Moorfields Ophthalmic Hospital, an institution of world-wide fame, and a trusted authority on the diseases of the eye. Beyond all this, he has contributed articles on most surgical subjects, all characterized by deep reflection, original thought, and acute observation linked with infinite pains. He is a general favorite with all, and is a man of whom the medical profession is justly proud. Dr. Syer Bristowe is less widely known, and yet is well known. He is Senior Physician to St. Thomas's Hospital, and is one of the lecturers on medicine in its school. He has made many contributions to medical literature, the most important being a text-book on the "Practice of Physic." This work commands a large sale on its merits, and is especially good in its articles on the diseases of the nervous system. Recently Dr. Bristowe was elected a Fellow of the Royal Society. Such, then, were the men who delivered the addresses in Medicine and in Surgery. Singularly, they both elected to discuss the subject of the relations of Orthodox Medicine to Homœopathy. This subject has become a burning topic since the last illness of the late Lord Beaconsfield. I referred to it in my letters at the time, and also wrote frankly on the matter in the columns of the *British Medical Journal*, criticising somewhat sharply the

action then taken by Dr. Quain and the advice given him by other leaders of the College of Physicians. The attempt to bolster up the action then taken fell dead before the universal condemnation of the profession. How, then, two such representative men happened to select the distasteful topic as part of their addresses, it is impossible to explain satisfactorily. In each case distinct and pronounced disapprobation was expressed by their audience. The profession, as a body, would have none of it. The homœopath, avowed or disguised, was repugnant to the palate of the profession. According to a leader in the *British Medical Journal*, "The greater part of Dr. Bristowe's address was devoted to a minute, careful, and thorough exposition of the fallacies of the homœopathic system of medicine. With masterly analysis and unsparing logic he discussed its contradictions, its baseless fictions, its false inductions, its feeble display of plausible logic, and its utter worthlessness, scientifically and as a matter of practice. Having devoted to this needless task of slaying the thrice-slain mind, he concluded by the logical *non sequitur* that, on the general grounds of growing liberality of public and professional opinion, it was no longer desirable to exclude homœopaths from the privileges of consultation." While "Mr. Hutchinson, without discussing so generally the extended subject, interpolated in his address a special plea for the acceptance of consultations with homœopaths in surgical cases; pointing out, as has been many times before pointed out, that the manipulations of the surgeon are independent of the shibboleth of homœopathic or any other doctrine, and that the special ground of incompatibility or extreme divergence of theory does not confront the surgeon with the same difficulties with which it opposes the physician in consultation." The fact of the general similarity of views of the two gentlemen to whom the delivery of the addresses had been intrusted, and of its opposition to the general views held by the profession at large, was so patent that the hypothesis of inspiration at once suggested itself. The character of the two gentlemen prevented any supposition that they were seeking reconciliation with the homœopaths for selfish or individual ends; consequently it was suspected that they were the mouth-pieces of the powers that be in the British Medical Association on the subject, and that there existed a deep and wide-spread scheme to modify the present existing rules in the matter, in favor of the homœopath and those who desired to co-operate with him. The *Lancet* and the *Medical Press and Circular* spoke out on the subject in no doubtful tones, and then came the leader just quoted from, and an official disclaimer from the President of Council, Mr. Wheelhouse, of Leeds. He writes, "To in-

sinuate the idea that those addresses have been inspired by the government of the Association is as absurd as it is untrue. It is manifestly impossible, when we ask gentlemen to read addresses for us, that we should dictate to them either what they shall or what they shall not say; and it is absurd to suppose that we can permit ourselves to be held responsible for what they have said. As President of the Council I feel it incumbent upon me to stand forward and say that neither directly nor indirectly had any such 'inspiration' been for a moment thought of by the committee of Council, and to declare my conviction that, up to the moment of the delivery of the addresses, no member of that committee had the faintest idea that either Dr. Bristowe or Mr. Hutchinson was about so much as to even touch upon the question either of homœopathy or of homœopathists."

The *Journal* concludes its leader by saying that the gentlemen who spoke out so in their addresses spoke for themselves only. "In suggesting these views they acted conscientiously and honorably upon their own personal opinions: they were not, we believe, altogether wise in selecting that opportunity of expressing those opinions. Certainly they spoke with no other than their own individual authority, and their opinions cannot be accepted as in any way expressing official views." The matter must, then, be regarded as shelved for the present; but whether it will be reopened again or not it is impossible to say. Despite the editor's disavowal of any participation in the views expressed in these addresses, he declares the question has nothing to do with the original cause of the tumult,—viz., the Quain-Kidd consultation on the late Earl of Beaconsfield. He says that in that case "the question was one of planting the banner of legitimate medicine upon the territory of the enemy, they making humble submission and denying their heresies." Yet he writes of the homœopath and the orthodox doctor, "There could be no possible discussion between a Chinese physician (the homœopath) and the European, speaking in different languages, acting upon different principles; nor can there be any profit to the patient in the consultation between a homœopath and a rational practitioner. The pretence of a consultation has a twofold bad effect. In the first place, it is in itself a deception, and therefore a compact into which the honorable physician justly refuses to enter; and, in the second place, it covers the person whom we believe to be acting either irrationally or dishonestly with the cloak of scientific brotherhood. It is therefore not an arbitrary professional rule, but a common rule of morality, which requires us to refuse to have any professional communion with that person."

Yet how oddly this sounds alongside what was said a few months ago! The members

of the Association are perplexed at these complicating utterances, and may exclaim, with the aged Isaac, "The voice is Jacob's voice, but the hands are the hands of Esau." One thing is clear at least, and that is that any decided expression of opinion on the part of the profession compels attention to it. To London consultants it is a matter of comparative indifference whether they meet homœopaths or not; the prospect of being found out and of losing anything thereby is only remote. But with men living in restricted areas it is far different. Say there is in a small town an avowed homœopath who possesses smartness and a considerable knowledge of human nature, and, consequently, is an active competitor in the struggle for bread and cheese. Either one of his patients is seriously ill and wishes a consultation with a regular practitioner, or the patient of a regular practitioner is ill and would like a consultation with the local homœopath: in either case the refusal of the orthodox practitioner to meet the homœopath would expose him to most unfavorable comment, in which his conduct would be represented as prejudiced, narrow, or envious, unless he can fall back upon a well-recognized rule of the profession to support him and back him up in his refusal. Consequently the bulk of the profession, the numerical majority, desire to have a strict rule on the matter; and before long they will take measures to enforce regard to their wishes. They already feel that the organ of the Association is rapidly passing away from their control under an editor who holds office for an interminable period, and before long a vigorous effort will be made to recover some control over it and its utterances. It was no part of the scheme of the original founders of the Association that its officers should hold office for interminable and unlimited periods of time. Until then the organ of the Association is not the mouth-piece of the members, but of the editor, and therefore its voice has little weight: instead of speaking in decisive tones, as the organ of a mighty association should, it gives utterances of doubtful character, varying from time to time, according to the exigencies of the hour.

Of recent years we have had an influx of American preparations which have provoked our home chemists. As a rule, the new-comers have been well prepared, have often been palatable, and, indeed, have presented advantages over the old preparations in vogue here.

If the American has to take a nauseous drug, he prefers it to be as little objectionable as its nature will permit. Consequently he is willing to pay a little more for the least nauseous product. This has led to energetic measures among the pharmaceutical chemists in the United States, who in emulous rivalry have undoubtedly put some excellent, and even elegant, preparations on the English

market, which are forcing their way into general favor. It was, then, with some interest, blended with curiosity, that I watched the results of the recent exhibition in the South Kensington Museum, the International Medical and Sanitary Exhibition. It was a magnificent exhibition, and the exhibits of chemical preparations were specially worthy of notice. American enterprise, of course, manifested itself in some splendid exhibits, well placed and handsomely set out at great cost. But, somehow or other, they did not meet with favor in the eyes of the judges. Consequently egg-shaped pills, so much more easily swallowed than round pills by those whose gullets are nervous, were passed over unheeded; the new compressed soluble hypodermic tablets attracted no notice; gelatin-covered pills had to stand aside, while pills otherwise covered attracted their attention; preparations of malt extract containing notable quantities of diastase possessed no charms of favor; neither did dialyzed iron; and yet one would think these preparations were worth some considerable notice. A new tincture-press of improved construction and a new drug-mill of Philadelphia production were equally unfortunate. On the other hand, awards were given for a sand-blast process for marking glass; for "an infallible worm specific," a preparation of the common fern, the polypoddy; also for a toilet preparation, the "Balsamine Orientale," which "preserves the freshness of the complexion and the softness of the skin, and guards it from the influence of the sun, and from that of severe frosts."

Really, this is something more than a serious joke, and does not reflect much credit upon the jurors. Of course it is easy to comprehend how American enterprise is regarded as uncalled-for and is unwelcome when it trenches upon the interests of the inhabitants of the old country; but such a way of treating it is not calculated to impede its progress. We are beginning to believe that palatable as well as well- and carefully-prepared drugs and medicaments are worth the extra price, and learning to pay willingly for them; and if the great English firms do not manifest more enterprise and more of the spirit of the age, they will be outstripped even in the home markets by competitors of more advanced views, and especially competitors from the United States of America. And there is another matter which bears upon the subject, and it is this: the suspicion with which American products were regarded is now being rapidly dissipated in the mind of the ordinary Britisher; so that the American preparations have no longer much prejudice to encounter, albeit that flagrant disregard of their exhibits was manifested by the jurors in the recent exhibition, the same being in no way due to want of enterprise as to space, prominence of situation, or lack of attractive-

ness in the articles exhibited by them or their representatives. Indeed, their being so passed over without notice testifies in the most unmistakable manner that the fear of their competition is already well established. The subject is not likely to rest where it is at present. The *British Medical Journal* writes, "Very great discontent is expressed, and, as we think, with just reason, as to some of the awards in the recent International Medical and Sanitary Exhibition; and it will probably be found desirable to reconsider some of the decisions. Some of the most remarkable and valuable preparations have failed to win the approval of the judges. In this respect their decisions are palpably contrary to common sense and to the verdict of the profession, and of any one who will take the trouble to inquire." After mentioning some American exhibits, it continues, "It remains for the members of the jury to explain why they passed over these products and why they gave high awards to certain trumpery secret preparations. It is not possible that the matter should pass without some sort of explanation; and it would be wise that an explanation should be forthcoming before further steps are taken."

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the Hall of the College of Physicians, Philadelphia, September 14, 1881, Dr. Horace Y. Evans, Vice-President of the Society, in the chair. Dr. Carl Seiler read a paper entitled "Remarks on the Surgical Treatment of Nasal Catarrh," and received a vote of thanks.

DISCUSSION.

Dr. J. Solis Cohen approved of the form of battery and the method of treatment advocated.

Dr. Henry H. Smith observed that the lecturer had not referred to Bellocq's canula for plugging the posterior nares, which, in the opinion of the speaker, would accomplish the purposes more effectively and conveniently than the method followed. The lecturer had only referred to the mechanical treatment of nasal catarrh; but the use of medicated sprays and astringent snuffs (tannin, etc.) is sometimes all that is needed; in other cases no local treatment will be of permanent benefit unless associated with systemic remedies (syrup of iodide of iron, cod-liver oil, quinia and iron, etc.).

Dr. Laurence Turnbull said that he was pleased with the battery, as it is of convenient form, of moderate cost, and easy to manipu-

late, possessing all the power requisite for the galvanic cautery, but has the objection of being too large for transportation. It is the old form of carbon and zinc well arranged so as to be immersed by the action of the treadle. He had given up the galvanic cautery, and now resorts to the admirable thermo-cautery, finding it more convenient and always in order, which is not the case with the galvanic; for if the latter is not constantly in use it will disappoint in an emergency when required.

Simply splitting up these hypertrophied enlargements by the knife answers a good purpose, also touching the surface with a caustic, like sulphate of copper, caustic potash, nitrate of silver, or, in syphilitic formation, solution of nitrate of mercury. This mode of treatment had been more successful in absorbing them in his hands than their entire removal, which always is attended in the galvanic cautery with contraction and imperfect cicatrization, or when removed by a snare a patch of sclerosed mucous membrane which is never restored. The snaring is often attended by profuse, and, in some instances, prolonged hemorrhage; this is also the case when the knife is used and too large an incision made. In one case the hemorrhage occurred more or less for three days until he resorted to the use of Bellocq's canula. Students and even general practitioners are apt to find difficulty in the application of the galvanic cautery, owing to the restlessness of the patient, for at times it gives pain. The ordinary enlarged follicles are numerous, and can, as a rule, be relieved in a great measure without surgical interference; but they must not be confounded with adenoid growths found behind the soft palate, which when operated upon require great care in their removal, as the hemorrhage is sometimes so profuse as to require prompt plugging of the posterior nares, and the application of persulphate of iron by the finger to the spot. Fortunately, the latter form of tumor, although much discussed and treated, is more rare than we would anticipate.

The following accidents occurred in the use of the galvano-cautery even when employed with care and by competent and able advocates of the cautery electrode:

Dr. E. L. Shurley, of Detroit, Mich., has recorded* that in destroying a growth upon one of the turbinated bones with the cautery he also by accident burned the opposite part of the septum nasi, which nearly resulted in permanent agglutination of the nasal passage.

Dr. W. H. Daly,† of Pittsburg, Pa., accidentally burned the rim of the Eustachian orifice with the cautery electrode while removing a growth from the vault of the pharynx, causing otitis media of a serious character. And in another case otitis media

* St. Louis Medical and Surgical Journal, January 5, 1880.

† Trans. Am. Med. Assoc., vol. xxxi. p. 654, 1880.

purulenta was caused in the ear opposite from the nostril in which an operation was performed, and was attended with symptoms of so serious a character as to threaten the life of the patient. In another instance a slight cauterization of hypertrophied mucous membrane upon a turbinated bone caused facial erysipelas that nearly proved fatal.

Carl Michel, of Cologne, admits that some of his patients had vertigo and fever the day after the operation and had to go to bed, and on page 95 of his pamphlet* he states that a strong young man upon whom he had operated with the galvano-cautery had, within two hours, violent earache and headache, and in a few days perforation of the tympanic membrane and purulent discharge. In another case there was deafness upon the third day after the operation, with perforation and discharge from the ears. He notes apologetically for this method that Meyer and Wendt had inflammation of the middle ear, followed by suppuration, in the patients operated on by them with the modified galvano-tonsillitome or *ringmesser*.

In conclusion he stated, as his candid opinion from long experience, that the indiscriminate use of the galvano-cautery forceps, snares, etc., is apt to do injury unless great care is taken by the practitioner and the proper class of cases selected for operation.

Dr. Seiler, in closing the discussion, said that he had not mentioned any medicinal applications used in the treatment of hypertrophic nasal catarrh, because his paper had been on the surgical treatment only. He was fully aware of the value of Bellocq's canula for plugging the nares, but that for the purpose for which he recommended the use of the Eustachian catheter it was utterly useless, because the catgut and tape to hold the velum forward could not be passed through it.

In answer to Dr. Turnbull's remarks, Dr. Seiler said that in most cases where he used the galvano-cautery with advantage the thermo-cautère could not be used, there being not room enough in the narrowed channel of the nostrils for the introduction of the latter instrument. The objection raised "that the burning of the hypertrophied tissue produced cicatricial contraction" was no objection at all, for this very contraction was aimed at in the operation, with a view to tie down the hypertrophies and increase the lumen of the nasal canals. When the doctor said that the snaring of these hypertrophied portions of mucous membrane was attended by copious hemorrhage necessitating the plugging of the nares for several days, his experience differed widely from that of the lecturer, for the latter had operated with the Jarvis snare in a number of cases, and had never found any hemorrhage to follow beyond a few drops of blood. When, as he had said in his paper, the

operation was performed slowly, the wound always healed by first intention, and did not cause sclerosis in the mucous membrane at the seat of the wound. Dr. Seiler fully concurred with Dr. Turnbull as to the rarity of so-called adenoid growths in the nares, and expressed it as his belief that frequently simple hypertrophies of the mucous membrane, such as he had described, were mistaken for adenoid growths.

REVIEWS AND BOOK NOTICES.

MANUAL OF THE PHYSICAL DIAGNOSIS OF DISEASES OF THE HEART, INCLUDING THE USE OF THE SPHYGMOGRAPH AND CARDIOGRAPH. By ARTHUR ERNEST SANSOM, M.D. Lond., Assistant Physician to the London Hospital, etc., etc. Third Edition. Philadelphia, Blakiston, 1881. 12mo, pp. 300.

That Dr. Sansom's excellent little book has reached a third edition in less than four years is a hopeful sign of the wide-spread interest now felt by medical students in the diagnosis of diseases of the heart. This branch of practical medicine has, fortunately, ceased to be a specialty. Many well-trained students can now at graduation diagnose uncomplicated valvular lesions, and most hospital internes can attach their true import to the physical signs of cardiac disease with a precision that was rare among experienced physicians a generation ago. It is to be regretted that the advance in cardio-therapy, which during the same period has not been less than that of cardiac diagnosis, yet remains "caviare to the general." The author announces in his preface his intention to "follow up this little work with another on the treatment of heart diseases, so arranged that the two volumes shall constitute a systematic work." The fulfilment of this promise will, it is to be hoped, speedily follow.

J. C. W.

GLEANINGS FROM EXCHANGES.

LARYNGEAL TUMORS.—Dr. Fletcher Ingalls says that morbid growths in the larynx are found most frequently in males. They may occur at any age, but between the ages of twenty and forty they are more common than at either extreme of life. Of his own patients, the youngest was six years old and the oldest seventy.

Excepting the malignant growths, these tumors are generally the result of chronic catarrhal inflammation of the larynx of a mild character. They are occasionally caused by syphilis, and not infrequently by phthisis. In some instances measles, croup, diphtheria, whooping-cough, or the inhalation of irritating

* Diseases of the Nasal Cavity and Vault of Pharynx.

substances seem to have acted as exciting causes.

The symptoms caused by these growths depend mainly upon their location and size, and are much the same regardless of the exact nature of the tumor. The patient usually gives a history of having had a severe cold, contracted several months beforehand, from which he has never fully recovered. There has generally been some hoarseness at first, which has at times been better and at times worse, until finally it has become persistent; but in some cases the aphonia continues paroxysmal for a long time. The hoarseness may progress to complete aphonia; and if the tumor is large, considerable dyspnoea may be experienced. The affection of the voice is often most marked with small tumors, especially if they are attached to the vocal cord. Often these patients complain of a tickling sensation in the throat; and when the tumor is pedunculated, they frequently experience sensations like those produced by a foreign body in the larynx.

The growth seldom causes much pain, but frequently it gives rise to slight discomfort, especially on swallowing. If the tumor is of considerable size, the difficulty in deglutition may be very marked. Even with small growths speaking is often tiresome, and with the larger it may be nearly impossible, either from the impediment to the free vibration of the cords or from lack of force in the expiratory current of air.

Respiration is often stridulous when the tumor is large. Cough is usually present, but it varies greatly in character and frequency. It may be harsh and dry, or easy and loose, and it is sometimes croupy. In some cases there is scarcely any cough, while in others this may be the most distressing symptom. With small neoplasms the expectoration is usually slight, but with the larger growths, whether benign or malignant, it is frequently excessive. In these latter cases collections in the larynx of tenacious mucus greatly add to the suffering and danger of the patient. This mucus may cause great difficulty in respiration, and doubtless, in cases which are not properly treated, it is often the immediate cause of death.

Diagnosis.—By auscultation over the larynx or trachea a moist râle or sort of valvular murmur may sometimes be detected; but even if all the ordinary symptoms and signs of a tumor are discovered, an accurate diagnosis cannot be made without the laryngoscope.

By the aid of a small mirror placed in the throat, and a good light reflected upon it, we can usually at once determine the nature of the difficulty, though in some cases the intractability of the patient or the peculiar location of the tumor may necessitate repeated examinations.

Prognosis.—The prognosis, in cases of be-

nign laryngeal tumors, depends upon their size and location. If a tumor is small and located above the vocal cords, it may give the patient no particular inconvenience; but if situated on the cord, it causes more or less aphonia.

Tumors as large as a pea usually cause aphonia, even though located above the vocal cords.

The tendency with most of these growths is to gradually increase in size, though some of them, after attaining a certain size, may remain stationary for years.

When a tumor has once caused hoarseness, there can be no reasonable hope for the disappearance of this symptom until the growth has been removed.

Large growths, by which Dr. Ingalls refers to tumors varying from the size of a pea to that of a filbert, often jeopardize the patient's life. They may do this by exciting and rendering permanent a harassing cough, which may gradually exhaust the patient; or, in consequence of the small size of the glottis, they may so interfere with respiration as to cause sudden death by choking, or more gradual dissolution through the deleterious effects of continuous imperfect aëration of the blood; or their pernicious effects may be mainly due to the difficulty which they cause in deglutition.

Malignant tumors in the larynx, so far as past experience goes, are fatal. Treatment may prolong life for a few days or months, but a time will soon come when deglutition or respiration will become impossible, and then tracheotomy or even extirpation of the larynx can add only a brief span to the patient's existence.

Treatment.—There are two plans of treating benign laryngeal tumors,—first, that calculated to relieve the local hyperæmia, and, second, that for the destruction or removal of the growth.

A few laryngologists discourage all operative procedure so long as the growth does not materially interfere with the individual's means of obtaining a livelihood or directly endanger life; and these believe that the sole treatment in many cases should be that adapted to chronic laryngitis,—for example, the topical application of strong mineral astringents or mild caustics.

While this treatment is undoubtedly adapted to some cases, it should be accorded a secondary place. It is often useful as an adjunct to operative measures, but it will seldom effect a cure. Dr. Ingalls has seen tumors considerably diminish in consequence of the persistent use of such remedies; but they have soon attained their original size when the treatment was suspended, or even during its continuance. In some cases, he has no doubt that such treatment stimulates the tumor to more rapid growth.

Notwithstanding the difficulties and dangers of operative procedures, he is fully in

accord with those laryngologists who believe that, as a rule, benign growths in the larynx should be removed by operative measures. This should be accomplished through the natural passages when possible; and when this is impracticable, if the growth endangers life, it must be removed by tracheotomy, by thyrotomy, by supra-thyroid laryngotomy, or by division of the thyro-hyoid membrane, or by infra-thyroid laryngotomy.

However, extra-laryngeal methods should not be adopted even when endo-laryngeal methods cannot be carried out, unless the patient's life is endangered by the presence of the tumor.

Most of the papillary growths found in the larynx are not larger than a pea, but occasionally they attain the size of a walnut. They are generally multiple. These tumors are usually attached to the vocal cords, to the ventricular bands, or to the inter-arytenoid fold. They may be pedunculated, but they are more apt to be sessile.

Most papillomatous tumors of the larynx are of a light pinkish color, and have a granular surface or are laminated like condylomatous growths. They are soft and friable, so that they may be easily crushed or pulled off with forceps. Voltolini has shown that they may occasionally be detached by frequent up-and-down movements of a sponge passed into the larynx.

Tumors of this kind are not likely to recur after they have been thoroughly removed, except in phthisical patients.

As has been stated, papillomata constitute about three-fourths of all laryngeal tumors, and their immediate cause is a chronic hyperæmia of the mucous membrane from which they spring.—*Chicago Medical and Surgical Journal*.

THE EFFECTS OF SOME DRUGS ON LACTATION.—Dr. Dolan continues his excellent paper on this subject in the August *Practitioner*. In speaking of defective lactation, he says that this may occur from mechanical causes, as non-development of the lactiferous tubes or the cæcal termination of the ducts, or through non-perfection of epithelium, conditions which preclude treatment. It may also be defective from a plethoric state of body, a condition strictly amenable to treatment. A carefully regulated diet, avoidance of stimulants, with milk as a leading article, plain but nutritious food, and the occasional administration of castor oil, will soon remove the obstruction.

One of the commonest causes of defective lactation is due to anæmia. In a large number of such cases suckling must not be thought of; but there are some cases where suckling is necessary, the anæmic condition being overcome by a liberal dietary and by the use of some preparation of iron.

Torpor of the mammæ is also assigned as a cause. When the secretory apparatus is

inactive, much benefit may be derived from the application of the electric current, applied several times daily in succession, for fifteen to twenty minutes. Irritation of the nipple, warm poultices, the breast-pump, and some of the so-called galactagogues are also useful in this state.

Dr. Dolan has tested some of the popular drugs for which a milk-secreting character has been claimed, along with others which were employed for the purpose of noting their action on nurse or nursing. His results, so far as published, are as follows:

Aconite.—Two minims were administered to a nursing woman every half-hour until twelve minims had been taken, and then some of the milk was drawn off. Chemical analysis showed the absence of aconite in the milk in this case, and also in two others where it was subsequently given. In spite of this negative result, Dr. Dolan recommends caution in administering this drug to mothers who are nursing.

Anise (water and oil of) is said to promote the secretion of milk in nurses. Dr. Dolan has, however, found it useless, though it flavors the milk and children seem to like it. "We have here probably," says Dr. Dolan, "an explanation of the use of warm aromatic medicines."

When the child sucks, the nipple becomes turgid and erect, and the gland is stimulated. If a child be eager for the breast, through liking the milk, it would be presumed that the secretion would be increased. In some cases such a result would follow, as, for instance, when lactation was defective through torpor of the mammæ: hence galactagogue properties were assigned to such innocent medicines as dill and anise-seed. Both these medicines belong to the Umbelliferae. Dr. Dolan thinks a large number of this family produce an effect on milk, imparting to it a distinct flavor and odor; and as hemlock (conium) belongs to this class, this fact becomes important.

Anethi, Aqua et Oleum.—Dill (*Anethum graveolens*) has been recommended as a galactagogue. From his experience, Dr. Dolan asserts that it is perfectly useless. Administered to six women, no effect whatever on lactation resulted, though an aromatic flavor was imparted to the secretion.

The children took the breast with avidity. It may be given to a mother whose child is troubled with flatulent colic after sucking.

Allium Sativum.—Dr. Dolan administered garlic to three women, not with any hope of increasing secretion, but in order to see whether the family of Liliaceæ acted on or were taken up by the secretory apparatus of the mammæ. The milk was speedily tainted, and the children would not take the breast.

Arsenic.—As this is a medicine frequently given, and as arsenical saturation may occur, it is highly important to know whether it is

present in the milk. Dr. Dolan administered it under the form of liquor arsenicalis. The children had in all cases been weaned, and the secretion maintained by artificial suction, and the milk thrown away.

In one case five-minim doses were given three times a day for six weeks. There was not the slightest symptom of arsenical saturation. Chemical examination of the milk showed that arsenic had passed into it.

Ammonia Carbonas, etc.—The preparations of ammonia are mildly stimulant. Through their action on the vaso-motor system the circulation is improved and the secretions generally increased. Having such a general action, Dr. Dolan tried them in order to test their local action on the mammary gland, and, as ammonia is found in the blood, to see whether it could likewise be found in the milk. It readily enters the blood, increasing its alkaline reaction, and, owing to its high diffusive power, escapes very readily through the body in different ways, a portion passing off into the breath, some with the sweat, and much with the urine.

In two cases where he gave the carbonate and the acetate of ammonia in moderately large and continued doses, he found, as regards the carbonate, that it entered into the milk, and as regards the acetate, that it acted as a diaphoretic.

Administered in half-drachm doses every two hours, perspiration was copious, produced after third dose. The secretion of milk was rendered more plentiful, breasts more distended.

On drawing off 20 cc. of milk he found that it was thin, poor, and watery, so that, somewhat like jaborandi, this drug increased the water in the milk without improving the quality.

This patient had not a plentiful supply of milk, and on the day after taking the medicine the quantity secreted was not more than usual.

Succus Belladonna.—This was given in the dose of twenty minims to a nursing mother. After three doses had been given, some milk was drawn off and examined for belladonna, with a negative result. Other experiments give reason to believe that belladonna is eliminated by the kidneys.

Copaiba.—The well-known but distasteful mixture of balsam, improperly so called, and liquor potassæ, was given to a nursing woman. In four hours there was evidence that it had passed into the urine, proved by the smell, by nitric acid, and ether. As it might be presumed that by this time it had entered into the circulation, some milk was drawn off and submitted to the following tests:

1. Odor; milk distinctly impregnated with odor of copaiba.
2. Under the microscope; globules larger and coarser.
3. Tested with nitric acid.

Effect on child: infant would not touch the breast. Some of the milk drawn off and administered to a child two years of age. Urine of this child examined half an hour after taking it; distinct traces of copaiba found in it.

OCULAR SYMPTOMS IN DIFFERENT DISEASES.—Dr. Gorecki has tabulated his views as follows:

Blepharoptosis, or the falling of the upper eyelid, indicates paralysis, complete or incomplete, of the third pair.

Lagophthalmos, or inability to close completely the palpebral fissure, is a sign of facial hemiplegia, idiopathic or a symptom of cerebral disease.

Strabismus occurring suddenly and accompanied by diplopia is most frequently the result of some cerebral affection.

Xanthelasma (a yellow lamina sometimes met with in the skin) of the eyelids occurs in certain alterations of the liver.

Subconjunctival ecchymoses are frequent in whooping-cough, and may sometimes, at the beginning of the complaint, clear up a difficult diagnosis.

Redness of the conjunctiva, watering of the eye, etc., indicate in the child the outbreak of some eruptive fever, particularly measles. The prognosis is favorable if the tears come when the child cries, but fatal if the secretion of the tears is arrested.

Spots on the cornea are often the indication of a strumous constitution.

Dilatation of the pupil, or mydriasis, indicates excessive fatigue, the existence of intestinal worms, meningitis in the second stage, or a true amaurosis. The dilatation is most frequently connected with atrophy of the optic nerve. It is seen also during an attack of epilepsy, on coming out of chloroform, after belladonna-poisoning, etc.

Unequal dilatation of the two pupils points to the onset of general progressive paralysis.

Contraction of the pupil is one of the early symptoms of *tabes dorsalis*. It is met with also at the beginning of meningitis, in opium-poisoning, and in the first stage of chloral-poisoning.

Deformation of the pupil, particularly after the injection of atropin, indicates an old iritis, in nine cases out of ten, of syphilitic origin, if not depending on some disease of the neighboring parts.

Cataract in subjects under say forty or fifty is frequently of diabetic origin, and constitutes soft cataract.

Finally, the ophthalmoscope enables us to recognize the retinitis of albuminuria in Bright's disease, of simple polyuria, and sometimes in the case of women during pregnancy. Retinal hemorrhages, œdema of the retina, and embolism of its central artery are sometimes met with in organic affections of the heart. Optic neuritis and perineuritis, and atrophy of the disk, are symptoms of syphilis, or of tumors in the neighborhood of

the cerebellum or the corpora quadrigemina. —*Gazette des Hôpitaux; Glasgow Medical Journal.*

HYOSCYAMIA AS A DEPRESSO-MOTOR.—Dr. Seguin states that the experience of all observers with reference to the physiological and therapeutic effects of hyoscyamia may be summed up as follows. 1. It acts as a mydriatic, but whether more fully or longer than atropia remains to be settled. 2. When given in small doses it reduces the cardiac pulsations, increases arterial tension, and checks the loss of body-heat. It also produces hallucinations and delirium. It may cause a fall of axillary temperature, and occasionally a rise. 3. In large doses it immediately increases the pulse-rate, produces a seeming paralysis or motor debility, and sleep. 4. Hyoscyamia is indicated in mania, restlessness, delusions of persecution, dementia with agitation and destructiveness, epileptic mania, insomnia, rapid action of the heart, epilepsy, status epilepticus, chorea, paralysis agitans, hysterical spasms, tremor, neuralgia, rapid pulse, etc. 5. In mania and allied states it produces sleep as certainly as, or even more certainly than, chloral, without any evil after-effect, unless it be occasional gastric disorder. 6. In cases of delusions of persecution or of suspicion it has produced a positive cure. 7. In paralysis agitans it achieves what no remedy ever has done,—viz., arrests the movements for four hours, or more, without insensibility. 8. In the status epilepticus it shortens the attack materially; perhaps better than any other single remedy. 9. It is a diuretic of no mean power. 10. The curative power of hyoscyamia does not appear to be great. In some cases of insanity its use has been followed by recovery; but, as a rule, we must look upon it as a good narcotic, often speedier, more complete, and less objectionable than morphia and chloral hydrate. 11. In spasmodic diseases, so far, we can speak of hyoscyamia only as an ameliorating agent, or as a palliative.

Dr. Seguin suggests that in cases of very acute chorea, where death is threatened by incessant motion, hyoscyamia, given hypodermically, might prove of benefit by securing muscular relaxation with certainty, thus allowing the patient to rest, and giving time for other remedies to act.—*Practitioner; from Archives of Medicine*, vol. v. No 3, p. 289.

DOMESTIC TREATMENT OF THE INSANE.—In an article on this subject in the *Practitioner* for August, Dr. Lionel A. Weatherly says,—

"With regard to the cases which are most suitable for domestic life, it is generally presumed, and possibly rightly so, that harmless chronic cases, or quiet and non-suicidal temporary ones, are those, and those only, to whom this trial should be given; but let me here state my conviction that in some cases this suicidal or homicidal tendency is to a great extent developed by the dreadful feel-

ing of being shut up in an asylum, with, to them, no possible mode of escape, added to the natural feeling that they are neglected and forgotten by those who, on the plea of relationship alone, ought to show some slight interest in their existence.

"And, arguing from this point of the better chance of cure of many cases of insanity under domestic care, it has been clearly demonstrated, and Dr. Bucknill lays great stress upon this fact, that there is in many cases of lunacy a period when entire change of life and surroundings may effect that possibly permanent cure which has been so long looked for; and thus I maintain that many convalescing patients in asylums would run a far better chance of that period of convalescence being short, and the recovery more permanent, if they were, when that time came, placed under proper domestic treatment; and the Commissioners should, I think, unquestionably have the power to order the removal of such cases from asylums to domestic care, where they would be helped onward in the road to recovery and be still under their watchful supervision.

"Surely this would be immeasurably better than having such patients discharged from the asylum, to be again amongst their relations and friends, and probably, as has been over and over again proved, to be soon brought back to that prison from which but a short time since they thought they had escaped. And with what feelings, may I ask? Feelings that can hardly be realized, and which of themselves must be sufficient to aggravate their unbalanced mental condition to an enormous degree. I have had such feelings most vividly described to me by more than one poor creature who has undergone this never-to-be-forgotten trial,—and described in such a clear and lucid manner as to have greatly impressed me with many of the disadvantages of asylumdom with regard to the curability of some forms of insanity."

ACUTE INTESTINAL OBSTRUCTION CAUSED BY IMPACTED GALL-STONE.—Dr. W. A. Berridge (*Lancet*, July 30, 1881) gives the case of a widow of sixty-nine, who enjoyed good health, had never had jaundice, was in the habit of taking an aperient pill occasionally, and had lately become very stout. The patient was seized on February 2, 1880, with acute abdominal pain and vomiting; her bowels had acted freely during the day. She complained of severe abdominal pain, chiefly on the right side. There was no abdominal tenderness or tympanites; no swelling or lump could be felt, and there was no external hernia. She was supposed to be passing a gall-stone. Vomiting continued, with obstinate constipation, for several days. On the seventh day of the patient's illness, intestinal obstruction being clearly made out, an operation was decided upon. An incision five inches long was made, under antiseptic

precautions, in the median line from the umbilicus downward, and the hand introduced. A hard mass was found in the middle of the small intestines, obstructing the bowel. The bowel was distended above the obstruction, collapsed and empty below. This was drawn to the surface, the gut opened by a longitudinal incision along its free margin, and a large impacted gall-stone removed. The wound in the bowel was closed by a continuous suture of carbolized silk, the bowel then cleansed and returned into the abdominal cavity. The abdominal wound was closed in the ordinary way. The patient did well for twenty-four hours, but at the end of that time she became collapsed and suddenly died.

At the autopsy next day a recent peritonitis was found. The wound in the bowel looked healthy, and was quite closed: it was about the middle of the small intestine. The liver was large and fatty; no gall-bladder could be found, but where it ought to have been the duodenum was found adherent to the liver by a mass of fibrous tissue. On cutting into this, some small fragments of gall-stones were seen in the duct. A ragged opening existed in the upper part of the duodenum where it was adherent to the liver.

The points to which Dr. Berridge particularly desires to draw attention are the suddenness of the attack, the complete obstruction, the small size of the stone to give rise to such severe symptoms, the relief after the operation, and the comparatively easy death.

The reasons for thinking the obstruction was caused by a gall-stone were the age of the patient, the sex, being a female, her sedentary habits and mode of life, previous history, and the exclusion of all other causes of acute obstruction.

TREATMENT OF GALL-STONE.—Mr. R. Shingleton Smith (*Lancet*, vol. ii., 1881, p. 351), alluding to a paper on the administration of olive oil in the treatment of gall-stones, gives the case of a man of sixty to seventy who took six ounces of olive oil as a cure for biliary colic, following it the next morning by a dose of confection of senna. There was no action of the bowels from the oil or senna, but an enema brought down fæces of almost stony hardness, and hundreds of green masses of all shapes and sizes, from canary-seed to a good sized horse-bean; some were embedded in masses of hardened fæces, but floated as soon as separated; others were separate, and were found floating on the surface of the water. The color was pale green; some of them were translucent. All were soft, and flattened on pressure. The oil appeared to have been emulsified, as there was no trace of it. The masses were soft and greasy, and gradually melted away. In consistence and texture they resembled very soft soap. Mr. Smith's examination led him to the conclusion that these masses were not composed of cholesterin, and that the prin-

cipal element in their composition was oil, possibly in a state of semi-saponification. The patient was not relieved. In a subsequent attack a small circular colorless gall-stone was found in an evacuation, which, on examination, proved to be composed of pure cholesterin.

PAPAYA AND PAPAINA.—Dr. E. Bouchut, in an article on these medicines, reports that he injected a solution three times into an adenoma of the neck, into one point and into many points, according to the size of the tumor. At the end of two hours the pain was very great and attended with a violent fever. After three days the ganglia softened and were converted into abscesses, which might be opened with a bistoury. In three days more the abscesses healed.

In three cases of cancer of the breast and in one of the inguinal ganglia, after castration in the hospital of St. Louis, the injections of papaina were efficacious.

M. Bouchut, in further experiments with papaina, finds that it is a tæniifuge, for after administration to a child, segments of tape-worm, 25 cm. long, and in a partially digested state, were voided. In the Mauritius it has long been known as a remedy for round-worm, and it seems probable that this new remedy may have a future before it as an anthelmintic.—*Medical Press and Circular*.

THE TREATMENT OF SPERMATORRHOEA.—Dr. Nowatschek reports a case of spermatorrhœa consequent upon an attack of typhus fever. The diagnosis was confirmed by the recognition, under the microscope, of spermatozoa in the viscid fluid which was being constantly exuded from the urethra. Iron, quinine, cold applications to the genitals, and cold sitz-baths were successively ordered, and the affection was diminished, but was not cured, since the seminal fluid was observed after micturition and defecation. Lupulin, camphor, and potassium bromide having been tried without effect, Dr. Nowatschek had recourse to atropin, which completely cured the patient after five days' use. Dr. N. also reports a second and equally successful case, in which a solution of 0.1 gramme of atropin in 100 grammes of water was injected on two successive days to the extent of two-tenths of a syringeful hypodermically into the neighborhood of the perineum.—*Practitioner*; from *Schmidt's Jahrbücher*, January, 1880, No. 10.

FUMING INHALATIONS IN ASTHMA.—Dr. Murrell says that the ordinary nitre-paper often fails, because it is not strong enough; for some time past he has been in the habit of using very thick and strong nitre-papers, which may be called "nitre-tablets" (described in the last number of the *Medical Times*). The nitre-paper so prepared is as thick as cardboard, each piece consisting of six pieces of blotting-paper, closely adherent, and covered all over with crystals of saltpetre and chlorate of potash. The door and win-

dows having been closed, the tablet is lighted at each end. It burns very quickly, throwing out a flame often four or five inches long, and giving rise to dense volumes of smoke. The asthmatic patient almost immediately obtains relief, and drops off into a quiet slumber, from which he awakes refreshed. These tablets often succeed when the ordinary nitre-papers do no good. They nearly always induce sleep, and Dr. Murrell has used them with success in cases of insomnia when most of the ordinary remedies have failed. Large pastilles composed of equal parts of nitre and lycopodium are also useful in asthma.—*Practitioner*; from *British Medical Journal*, June 11, 1881.

NITRATE OF ALUMINIUM IN PRURITUS VULVÆ.—Nitrate of aluminium dissolved in five or ten parts of water has been used with success as a wash in pruritus. As this salt crystallizes with difficulty and is very deliquescent, it is best prepared extempore in the form of a fifty-per-cent. solution; 10.5 parts of dry aluminium hydrate are dissolved by digestion with sixty-five parts of pure nitric acid, sp. gr. 1.180, the solution diluted with 110 parts, and then filtered. The solution must be kept in glass-stoppered vials. Its sp. gr. is 1.170–1.172. For each part of the crystallized salt two parts of this solution are to be taken.—*American Practitioner*, 1880.

MISCELLANY.

IMPROVEMENT IN THE PRODUCTION OF MAGNESIA.—Magnesia is becoming of great importance in the manufacture of cements, artificial stones, fire-proof bricks, furnace-linings, retorts, etc. Many of its industrial applications have been limited by the high price of the native magnesite as imported from Greece.

A patent recently taken out by M. Closson, of Paris, solves the problem in the simplest manner. The crude lye of magnesium chloride is treated, not with burnt lime, but with burnt *dolomite*. In this natural combination the chlorine of the lye combines completely with the lime of the dolomite; so that if the latter is used in a state of purity—as it is readily procurable in bulk—a magnesia of from 98 to 99½ per cent. can be made on the large scale without any difficulty. The process is already in operation at Leopoldshall. The magnesia bricks there prepared resist even the flame of the oxy-hydrogen blast. If lime is present, even to the extent of five per cent., the bricks, etc., if moistened when hot, fly into fragments. Magnesia bricks prepared about ten years ago by Tessié du Motay, from Greek magnesite, and containing about thirteen per cent. of lime and silica, were melted in some experiments recently made in Sheffield. The cost of magnesia as prepared by the

Closson process is about 158. per ton. There is another important feature in the patent. The crude magnesium chloride contains a certain quantity of magnesium sulphate. To remove this, calcium chloride is added. The sulphate of lime, as thus precipitated, is used by paper-makers, under the name of pearl-hardening, and has been specially prepared in England for their purposes.

Closson's patents for Germany, Austria, and England have been bought up by a Mr. Schmidtman, a potash-manufacturer of Aschersleben. It is to be expected that as absolutely fire-proof furnace-linings, crucibles, etc., can now be procured, the use of the oxygen blast will assume a practical form, and that the way will be opened for great improvements in metallurgy.—*Chemical News*, August 22.

NUMERATION AND MEASUREMENT.—At a recent meeting of the Chicago Medical Society, a paper on this subject was read by Dr. Weller. He said that the idea upon which the decimal system was founded was as old as written history; a Roman scale, constructed as a lever with unequal arms, and graduated in decimals, had been exhumed from the ruins of Pompeii, while unmistakable evidences were found that the decimal scale was applied to measures of length and weight in Egypt in the days of the Pharaohs, in Chaldea, and when the Sanscrit was the popular language of the Hindoos. Ingenious mathematicians have constructed systems based on different radices,—four, six, eight, twelve, sixteen, twenty-four, and sixty-four. Charles XII. of Sweden constructed one based on twelve; Emanuel Swedenborg, one on sixty-four; but "man, to whose nature imperfection clings as a part of it, cannot think a perfect thought, much less construct a perfect system."

He now proposed a system based on the radix eight, which Dr. Taylor, of Philadelphia, had discussed before the Pharmaceutical Association in 1859. This new system needed new characters and a new nomenclature. The first eight numbers would be *un, du, te, fo, pa, si, he, ok*. Zero would become *ze*. *Unok* or *nok* would be nine; *nokun*, eleven; *dok*, sixteen; *fok*, thirty-two, etc. A letter added to and preceding one of the numbers becomes a multiplicator; placed after it, it means addition. He did not believe the unit of the decimal system had any advantage over other measures of length, and said that the *avoirdupois* pound should be retained in this country; but this he proposed to divide according to his new system.—*Chicago Medical and Surgical Journal*.

NO ACCOUNTING FOR TASTE.—In his interesting and instructive paper on "Calculus," Dr. Angus MacDonald gives an analysis of the cases of introduction of foreign bodies into the urethra which were collected by M. Donncé and published in the *Moniteur des*

Hôpitaux. He adds to the account of a woman who had introduced the handle of a stiletto into her bladder, the particulars of three hundred and ninety-one other cases. An odd list it makes, in all conscience. It includes seventy-eight portions of catheters and lithotripsy instruments, eighty-two needles, pins, or tags, six bone or ivory needles, six ear-picks, three ivory whistles, one ivory spindle, one ivory stiletto handle, fifteen leaden balls, three small keys, and eight metallic fragments of various kinds, twelve bones or splinters of bone, ten pieces of pebble or china, six pen-holders, fifteen needle-cases, ten pieces of tobacco-pipes, and four portions of glass tubing, besides other curious structures that we need not stay to mention. Of course the catheters and lithotripsy instruments would find their way into the bladder by accident; but the greater portion of the others must have been intentionally introduced under depraved sexual excitement, or for some other foolish reason. It must be observed that Donncé's cases refer to both sexes.

—*Medical Press and Circular.*

MESMERIC HYPNOTISM.—MM. Bourneville and Regnard have investigated this phenomenon in the Salpêtrière Hospital, and have shown that the so-called mesmeric sleep can be produced by gazing fixedly on almost any object, particularly in young impressionable females. They relate curious instances of the power so acquired over patients; and we are glad to see a subject up to this time abandoned to charlatans now scientifically investigated. The whole thing appears to us to be a form of hysteria,—male or female; but it is at present the subject of a great sensational trial going on in the French metropolis, in which a French lady of very high rank is endeavoring to annul the marriage of her daughter with the son of Musurus Bey, the well-known Turkish ambassador in London. The young lady corresponded in the most affectionate terms with Musurus junior, who induced her to go to London and marry him before a registrar. The mother states that she was under mesmeric influence throughout the whole affair. M. Charcot is engaged as an expert to investigate and give evidence in the case.—*Medical Press and Circular.*

A FISH-PROPAGATING company of California is experimenting with a frog farm. New Brunswick furnished the material to start with, one hundred and thirty frogs being sent from there, packed in fresh moss, in a box plentifully supplied with perforations for the admission of air. The moss was frequently moistened on the way. On the arrival of the box at its destination, only one hundred and twelve frogs were found, and of these ten were dead. It is supposed that the eighteen that were missing had been eaten during the journey by their companions in confinement.

—*Food and Health.*

We suppose the missing frogs did disap-

pear as surmised. In Prof. Burdon Sander-son's laboratory in London, or Foster's at Cambridge, we saw an American bull-frog of not remarkable proportions at home, but a Titan amidst British frogs, kept as a show giant, and habitually fed upon the unfortunate small hoppers of the British Islands, growing into a gorged cannibal.—ED. P. M. T.

TREATMENT OF NERVOUS PALPITATION.—The *Practitioner* copies from *Le Médecin Praticien* the following:

Dr. Bouchut treats nervous palpitation by the method which he calls *congestive*, since it produces a congestion of the vessels of the upper half of the body. This plan instantly stops that form of palpitation of the heart which is not caused by an organic lesion. The method, first introduced by Dr. Hardier, is as follows. The patient, standing in the erect position, with his legs fixed and straightened, bends the upper half of his body rapidly forward so that his hands touch his toes; by this movement the head is lowered and becomes congested. The column of blood immediately runs into the tissues, and a sensation of fullness is perceived, due to increased arterial and venous tension. If the hand is placed over the cardiac region while the patient is in this attitude, the palpitation will be found to have disappeared, while the heart has resumed its ordinary rhythm. The congestive attitude is not applicable to old persons, to those who are the subject of chronic alcoholism, or, in short, to any one in whom there is doubt as to the integrity of the veins and arteries.

PHYSIOLOGICAL ACTION OF SALTS OF GOLD AND OTHER METALS.—A very remarkable series of observations has been made by Dr. James Blake, concerning the physiological action resulting from solutions of different salts when introduced into the blood of living animals. He finds that salts of the same isomorphous group produce an intensity of physiological action in proportion to their atomic weights. The salts of thorium, palladium, platinum, osmium, and gold showed great similarity in their physiological action, all of them having a decided and characteristic effect upon the heart. The action of gold compounds was surprising; in minute doses of 0.003 gramme per kilo, it *kept up the action of the heart for several hours after death*, though the temperature of the body had fallen thirteen degrees below the normal heat.—*Scientific American.*

ORIGIN OF SOME "ORIGINAL COMMUNICATIONS."—In his address on "Our Medical Literature," before the late International Medical Congress, Dr. Billings conveys the experience of many an editor and reader of journals in the following paragraph:

"Journal articles, and especially reports of cases, undergo strange transmogrifications sometimes, and I have watched this with interest in the case of a French or German

paper translated and condensed in the *London Medical Record*, then appearing in abstract under the name of the translator in a leading journal, then translated again, with a few new circumstances, in a continental periodical, and, finally, perhaps, reversed and appearing as an original contribution in the pages of the *Little Pedlington Medical Universe*."

A NEW DISINFECTANT.—A cheap and useful disinfectant is a solution of chloride of lead. It is inodorous, effective, and its cost very small. It may be prepared as follows. Take half a drachm of nitrate of lead and dissolve in a pint or more of boiling water. Dissolve two drachms of common salt in a pail or bucket of water, pour the two solutions together, and allow the sediment to subside. The clear supernatant fluid will be a saturated solution of chloride of lead. A cloth dipped in a solution of chloride of lead and hung up in a room will sweeten a fetid atmosphere instantaneously, or the solution thrown down a sink, water-closet, or drain, or over a heap of refuse, will produce a like result.—*Progress of Science*, September, 1881.

COLD FIRE.—M. Friedel has introduced a new liquid hydro-carbon, which, according to recent experiments, seems to be possessed of extraordinary qualities. It boils at one hundred degrees Fahrenheit, gives a brilliant white light, unaccompanied by heat; and the slightest puff of wind will extinguish it in case of accidental ignition. The corner of a pocket-handkerchief, or even the finger, can be dipped into it, lighted, and used as a temporary torch, without any injury to the novel wick. Owing to the cold produced by the rapid evaporation of the liquid, it would thus seem possible, by means of this new agent, to make one finger serve as a taper whilst sealing a letter with the others.—*Progress of Science*, September, 1881.

AN interesting illustration of the valuelessness of some of the conclusions of foreign experimentalists is shown in a recent elaborate paper by Afanasieff. He treated seven cases of typhoid fever with the lukewarm bath, according to a new method, and deduced three conclusions therefrom. The baths were a modified form of the Riess method. The patients were kept in water at a temperature of 88° F. for three hours at a time. We are confronted with the surprising deduction that such baths reduce the temperature. The percentage of mortality is not given.—*New York Medical Record*.

SKIN-GRAFTING FROM THE DEAD SUBJECT.—Dr. John H. Gairdner, of New York (*Medical Record*), has repeatedly used with success skin-grafts taken from the subject several hours after death. In such experiments it is proper, of course, to select the subjects. Those dying from wounds or by accident would be likely to yield healthy grafts.

THE air has a very soothing effect upon the body when allowed to come in contact with its entire surface. It answers a very valuable purpose when a water-bath is impossible, or when the patient is too feeble to endure the application of water. A sleepless person will often fall into sound and refreshing slumber after walking a few minutes in his room with his whole body exposed to the air.

APPOINTMENTS AT THE PRESBYTERIAN HOSPITAL, PHILADELPHIA.—The Board of Managers at their last meeting elected unanimously H. Augustus Wilson, M.D., Pathologist; Vice, De Forest Willard, M.D. Dr. Willard was elected surgeon, the successor of the late Lenox Hodge, M.D.

DR. LLOYD HOWARD, resident physician of the Baltimore Quarantine, was accidentally drowned.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM SEPTEMBER 18 TO OCTOBER 1, 1881.

ALEXANDER, R. H., MAJOR AND SURGEON.—Relieved from duty in Department of the East, to take effect October 1, 1881, and granted leave of absence for three months, with permission to apply for one month's extension; at expiration thereof to report by letter to the Surgeon-General. S. O. 215, A. G. O., September 19, 1881.

HUNTINGTON, D. L., MAJOR AND SURGEON.—Relieved from duty as Attending-Surgeon at the Soldiers' Home, D.C., and to report in person to the Surgeon-General for duty as Curator of the Army Medical Museum, and to take charge of the division of surgical records of the Surgeon-General's Office. S. O. 217, A. G. O., September 24, 1881.

BROWN, HARVEY E., MAJOR AND SURGEON.—Granted leave of absence for four months. S. O. 220, A. G. O., September 29, 1881.

KING, WM. H., CAPTAIN AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Turritt, to proceed to Governor's Island, N.Y.H., and report in person at these headquarters. S. O. 170, Department of the East, September 24, 1881.

EWEN, CLARENCE, CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one year on surgeon's certificate of disability, with permission to go beyond sea. S. O. 220, c. s., A. G. O.

DE WITT, C., CAPTAIN AND ASSISTANT-SURGEON.—Now on leave of absence; to report in person to the Governor of the Soldiers' Home, D.C., for duty as Attending-Surgeon at the Home. S. O. 217, c. s., A. G. O.

HEIMANN, CHAS., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Fort Townsend, W.T., and assigned to duty at Vancouver Barracks, W.T., as Post-Medical Officer, relieving Assistant-Surgeon Dickson. S. O. 135, Department of the Columbia, September 9, 1881.

HALL, JOHN D., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 141, August 4, 1881, Department of Dakota, is extended three months. S. O. 220, c. s., A. G. O.

SKINNER, J. O., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Fort Verde, A.T., and to proceed to Wilcox, A.T., for duty as Acting Medical Purveyor in the field. S. O. 107, Department of Arizona, September 17, 1881.

CUNINGHAM, T. A., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month on surgeon's certificate of disability. S. O. 102, Department of the South, September 29, 1881.

GRAY, WILLIAM W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Canby, W.T., and assigned to duty at Fort Townsend, W.T. S. O. 135, c. s., Department of the Columbia.

PHILADELPHIA, OCTOBER 22, 1881.

ORIGINAL LECTURES.

ABSTRACT OF AN ADDRESS MADE BEFORE THE ACADEMY OF NATURAL SCIENCES, BY DR. H. C. WOOD, ON THE NATURE OF THE DIPHTHERITIC CONTAGIUM.

THE lecturer began by stating that the researches which formed the basis of the present address had been made under the auspices, and, indeed, at the suggestion, of the National Board of Health, by Dr. Henry F. Formad and himself, who were jointly responsible for the facts and inductions and jointly deserving of whatever reprobation or approbation might be due. The full text of the work is now in the hands of the National Board, and will be shortly published by them; and the lecturer desired that criticism be withheld until this was done, as the memoir will contain much that cannot be spoken of in the present lecture.

In the spring of 1880 work was begun by inoculating rabbits with diphtheritic membrane taken from the throats of patients at Philadelphia. An account of the labors of the following summer has been already published, but it seems necessary to epitomize them here. It was found that only in a very few cases was anything like diphtheria produced in the rabbit by inoculating with the membrane. The inoculations were practised by putting pieces of the material sometimes under the skin, sometimes deep in the muscles. Many rabbits died after some weeks, not of diphtheria, but of tuberculosis. In a series of experiments it was shown that this tuberculosis was an indirect and not a direct result of the inoculation, and that any apparent relation between the two diseases is only apparent, not real. Next, the tracheas of a series of rabbits were opened and false membrane inserted. It was found that under these circumstances a severe trachitis was frequently produced, and was attended by an abundant formation of pseudo-membrane. Careful studies made of the false membrane of diphtheria and of this false membrane showed that the two were identical, both containing in abundance

fibrin fibres, corpuscular elements, and various forms of micrococci. To determine whether other inflammations of the trachea than that caused by diphtheria or its membrane are accompanied by the formation of false membrane, a number of experiments were made, and it was demonstrated that the production of false membrane has nothing specific in it, but that any trachitis of sufficient severity is accompanied by this product. Careful studies also showed that this false membrane does not differ in its constitution from that of true diphtheria, except it be that the micrococci are not so abundant in it. We always found some micrococci, and in some of these traumatic pseudo-membranes they were almost as numerous as in the diphtheritic exudation.

Last spring we resumed our investigations. Having heard that there was a very severe epidemic in Ludington, Michigan, Dr. Formad was despatched to examine cases and collect material. He found a small town situated upon the shore of Lake Michigan, in the centre of the lumber region, with inhabitants mostly engaged in the lumber-trade and in managing very numerous large saw-mills. The town was all built upon high ground except the Third Ward. This occupied a low swamp which had been filled in largely with sawdust. The soil was so moist that a hole dug in it would fill at once with water, and but few houses had any attempts at cellars. It was in this district that the disease had prevailed. Almost all the children had had it, and one-third of them were said to have died. Dr. Formad examined a large number of cases, obtained a supply of diphtheritic membrane, and brought home pieces of the internal organs of a child upon whom he had made an autopsy. In every case the blood was found more or less full of micrococci, some free, others in zooglœa masses, others in the white blood-corpuscles. The organs brought home also all contained micrococci, which were especially abundant in the kidneys, where they formed numerous thrombi, choking up and distending the blood-vessels. In the summer of 1880 we examined the blood of several cases of endemic Philadelphia diphtheria, and in no case found any new elements in it. But during the present summer we have found micrococci in the blood of Philadelphia diphtheritic patients, show-

ing the differences in the disease are simply in degree, not in kind.

Experiments were now made with the Ludington material upon animals. Inoculations were practised under the skin, deep in the muscles, and in the trachea. In all cases the results were similar. A grayish exudation appeared at the seat of inoculation, along with much local inflammation, the animal sickened, and in the course of a few days death occurred. The local symptoms increased and widened. In some cases the false membrane spread from where the poison had been put in the trachea up to the mouth. The blood examined during life or after death was found to contain micrococci precisely similar to those found in the Ludington cases, and in a few instances micrococci were found in abundance in the internal organs. Studies made upon the blood of these animals, as well as upon the Ludington cases, show that the micrococci first attack the white blood-corpuscles, in which they move with a vibratile motion. Under their influence the corpuscles alter their appearances, losing their granulations. They finally become full of the micrococci, which now are quiescent and increase until the corpuscle bursts and the contents escape as an irregular, transparent mass full of micrococci, and form the so-called zooglœa masses. In the diphtheritic membrane the micrococci exist frequently in balls, and it is plain that these collections are merely leucocytes full of the plant. The bone-marrow of the animals was found full of leucocytes and cells containing micrococci.

The question now arose, is the disease produced by diphtheritic inoculation in the rabbit diphtheria? We concluded that it is, because the poison producing it is the same, the symptoms manifested during life are the same, and the post-mortem lesions are identical. The contagious character of the disease is retained, as we succeeded in passing it from rabbit to rabbit.

Our next series of experiments were directed to determining whether the micrococci are or are not the cause of the affection. The experiments of Curtis and Satterthwaite, of New York, have shown that the infectious character of diphtheria depends upon its solid particles; for when they filtered an infusion of the membrane it became less and less toxic in proportion as the filtration was more and more per-

fect; and when the infusion was filtered through clay, the filtrate was harmless.

The urine of patients suffering from malignant diphtheria is full of micrococci, and may contain no other solid material. Following the experiments of Letzerich, we filtered this urine and then dried the filter-paper. Upon experiment we found this even more deadly in its effects than is the membrane. The symptoms and lesions following in the rabbit inoculation with such paper are precisely those which would have ensued had a piece of diphtheritic kidney or membrane been employed. This experiment shows that the solid particles of the membrane, which are the essential poison of malignant diphtheria, are the micrococci, which must be either the poison itself or the carriers or producers of the poison.

Leaving for a while this point, I will next direct your attention to our culture-experiments. These were performed in the manner commended by Klein and that recommended by Sternberg. The first method seems to us the best for the purpose of studying the development of the micrococcus itself; the second, the best for the obtaining of it in quantity for experimentation.

We cultivated micrococci from the surface of ordinary sore throats, from furred tongue, from cases of mild diphtheria as we commonly see it in Philadelphia, and from Ludington cases. We found, in the first place, that there were no differences to be detected in the general or special appearance of the various micrococci, and no constant differences in size. We found that they all formed similar shapes in the culture-apparatus; they had this difference, however,—whilst the Ludington micrococci grew most rapidly and eagerly generation after generation up to the tenth, those from Philadelphia diphtheria ceased their growth in the fourth or fifth generation, whilst those taken from furred tongue never got beyond the third transplantation. Various culture-fluids were used, but the results were identical. We conclude, therefore, that as no difference is detectable between the micrococci found in ordinary sore throat and those of diphtheria, save only in their reproductive activity, they are the same organisms in different states. As the result of some hundreds of cultures, we believe that the vitality under artificial culture is in direct proportion to the

malignancy of the case from which the plant has been taken.

We next made a series of experiments of inoculating rabbits with cultivated micrococci, and succeeded in producing diphtheria with the second generation, but never with any later product. This success, taken in conjunction with the urine experiments already spoken of, seems to us sufficient to establish the fact that the micrococci are the *fons et origo mali* of diphtheria. The experiments of Pasteur and others have proven that it is possible for an inert organism to be changed into one possessed of most virulent activity, or *vice versa*, and we believe that we can offer direct proof that the micrococci of the mouth are really identical in species with the micrococci of diphtheria, and do not merely seem to be so. We exposed the Ludington membrane for some weeks to the air in a dried condition. There was no putridity or other change detectable in it; but, whereas formerly it had been most virulent, now it was inert, and its micrococci not only looked like those taken from an ordinary angina, but acted like them. They were not dead, they had still power of multiplication, but they no longer grew in the culture-fluid beyond the third or fourth generation. Certainly they were specifically the same as they had been, and certainly, therefore, the power of rapid growth in culture-fluids and in the body of the rabbit is not a specific character of the diphtheria micrococcus.

As is well known, Pasteur attributes the change from an active to an inert organism to the influence of the oxygen of the air upon the organism. Whether this be true of the diphtheria micrococcus is uncertain, but the effects of exposure of the dried membrane seem to point in such direction.

With the facts that are known in regard to the clinical history of diphtheria and those which we have determined in our research, it is easy to make out a theory of the disease which reconciles all existing differences of opinion and seems to be true.

A child gets a catarrhal angina or trachitis. Under the stimulation of the inflammation products the inert micrococci in the mouth begin to grow; and, if the conditions be favorable, the sluggish plant may be finally transformed into an active organism, and a self-generated diphtheria results. It

is plain that if this be correct there must be every grade of case between one which is fatal and one which is checked before it fairly passes the bounds of an ordinary sore throat. Every practitioner knows that such diversity does exist. Again, conditions outside of the body favoring the passage of inert into active micrococci may exist, and the air at last become well loaded with organisms, which, alighting upon the tender throats of children, may begin to grow and themselves produce violent angina, trachitis, and finally fatal diphtheria.

In the first instance we have endemic diphtheria as we see it in Philadelphia; in the second, the malignant epidemic form of the disease as it existed in Ludington. It is also apparent that in the endemic cases the plant whose activity has been developed within the patient may escape with the breath, and a second case of diphtheria be produced by contagion. It is also plain that as the plant gradually in such a case passes from the inert to the active state, there must be degrees of activity in the contagium, one case being more apt to give the disease than is another; also that the malignant diphtheria must be more contagious than the mild endemic cases. We think there is scarcely a practitioner who will not agree that clinical experience is in accord with these logical deductions from our experimentally-determined premises.

It yet remains for us to investigate as to what are the conditions outside of the body which will especially favor the production of active micrococci, and also to study the effects of agents in killing these organisms; for it is very apparent that local treatment of the throat must often be of the utmost importance, and that it will be far more effective if it be of such character as to kill the micrococci, and not simply be antiphlogistic in its action.

CHLORAL HYDRATE IN TOOTHACHE.—Dr. Spörer recommends that three to four lumps of hydrate of chloral (0.03–0.06 gramme) should be inserted into the hollow and painful tooth, the chloral being allowed to dissolve. He has treated thirty-eight cases successfully in this way, and has also obtained good results in several cases of hemicrania resulting from carious teeth.—*St. Petersburg. Med. Wochenschrift*, No. 35, 1880; *Centralblatt f. Chirurgie*, December 11, 1880.

ORIGINAL COMMUNICATIONS.

THE APPLICATION OF STATIC ELECTRICITY TO MEDICINE.

*Read before the Philadelphia County Medical Society,
September 28, 1881.*

BY W. R. D. BLACKWOOD, M.D.,

Physician to St. Mary's Hospital.

THE electrical phenomena attendant on thunder-storms were doubtless theorized upon, if not critically studied, by learned men in the earliest periods of history; but not until 600 B.C. did Thales of Miletus, one of the seven wise men of Greece, discover that amber, when rubbed, produced a new force capable of attracting and repelling light bodies, such as the pith of elder. He curiously inferred from this that it possessed a soul which was nourished by absorption of mysterious essences contained in the attracted substances, which were then violently repulsed as unworthy of further association. The word electricity was coined from the Greek *ἤλεκτρον*, "amber," by Dr. Gilbert, of Colchester, physician to Queen Elizabeth of England, who published a book in A.D. 1600, entitled "*De Arte Magnetica*," in which magnetic and electric phenomena were skilfully handled. The earliest known machine for generating the subtle fluid was constructed by Otto von Guericke, a burgomaster of Magdeburg, the chief city of Prussian Saxony, whose work, "*Experimenta Nova Magdeburgica*," published in 1672, describes it as being a sphere of sulphur rotated on an axis and rubbed by a cloth or cat-skin pressed on it by the hand. In 1709 a glass cylinder rubbed by the dry hand was substituted for the sulphur globe by Hawksbee, of London; and twenty years later Grey, a pensioner at the Charter-House, and Wehler, transmitted electricity from one point to another, and distinguished conductors from non-conductors. From 1733 to 1765 Dufay showed the identity of electrics and non-conductors and non-electrics and conductors, and discovered the two kinds of electricity, vitreous and resinous, whilst Boze, a professor at Wittenberg, adapted the prime conductor, and Winkler, of Leipsic, added the fixed cushion. In 1746 the Leyden jar was invented by Muschenbroek, of Leyden, on the old Rhine, near Rotterdam, Holland; but a rich burgomaster, Cuneus, of the same

town, and Kleist, canon of the cathedral of Kamin, in Pomerania, also claim the honor. The machine was greatly improved by the addition of the jar or condenser, which accumulates and holds for a time large quantities of electricity of low potential, which, in the limited field of the jar, the old scientists spoke of as *bound*, to distinguish it from the *free* field of the open air. In 1752 the famous kite experiment of Franklin proved the identity of lightning and statical electricity; and as I was taught at the University of Pennsylvania that the favorite ground of the philosopher whilst thus experimenting was that recently occupied by the building of my alma mater, and understand that the same claim is now held for the locality of our *confrères* at the Jefferson Medical College, I have by investigation reconciled these momentous theories by definitely ascertaining the true locality at which the cloud-spark was brought to earth as being a few feet northeast of the intersection, as it now stands, of Locust and Thirteenth Streets,—the foresight of our illustrious townsman in selecting this favored spot in view of its classic associations of to-day being equalled only by the universal adaptation of electricity to the scientific and popular wants of the wide world.

In 1768, Ramsden invented the plate-machine, which was gradually improved from time to time, the best form of this class now extant being that of Winter: the Carres and Bertsch dielectric apparatus also holds a high position. The most important modification, however, was the production, by Holtz, of Berlin, in 1865, of his celebrated instrument, in which cushions are discarded, the loss by friction being thus reduced to the minimum, quantity much increased; and through it the study of static electricity has been greatly facilitated. A very recent addition to this fine apparatus has rendered it as nearly perfect for medical purposes as our present knowledge would lead us to expect. The acme of perfection in machines for experimental illustration is reached in the magnificent development by Van Marum, of Holland, now exhibiting at Paris.

To retrace a little. Galvani, in 1786, discovered the constant current, galvanism, it being further investigated by Volta, who devised, in 1799, the Voltaic pile; and Faraday, in 1837, published his researches on induction currents, from which,

through electro-magnetism, such marvellous effects have been attained in the intercommunication of printed and articulate speech, in electric lighting, and in hundreds of applications to the arts and sciences, many of which are either mysteries to the public or even unknown. Seebeck, in 1821, discovered thermo-electricity; and the varieties referred to, with magnetism, bring this brief sketch of electrical history up to date, much interesting material being necessarily passed by from lack of time in which to consider it.

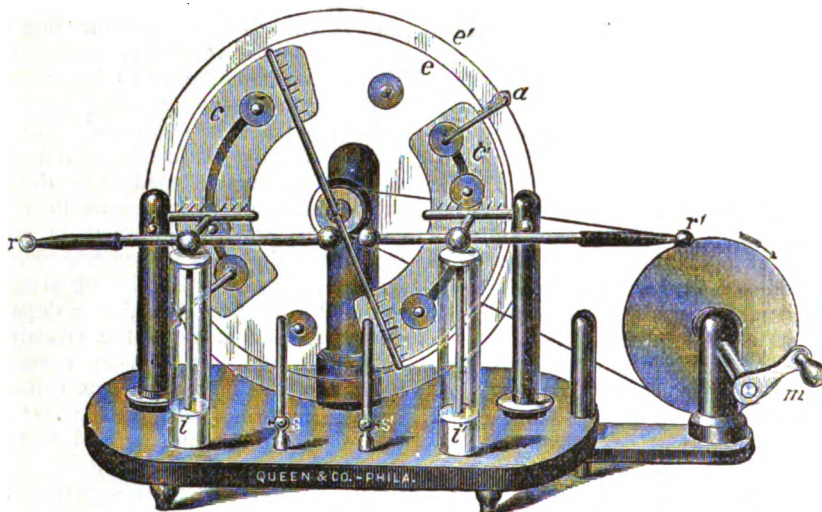
In the early days of therapeutics, charms, incantations, mesmerism, and like mummery occupied a considerable share of credit with the people, and by natural descent (or ascent) this plan of gulling their patrons has been inherited by the homœopathic fraternity, whose power over the imagination of their dupes is alike widespread and incomprehensible. It is to be hoped that the tendency on the part of certain so-called popular or fashionable physicians in regular practice to pander to the lassitude of brains in many of their wealthy patients, by leaning towards such jugglery as is evident at present, will be promptly and decidedly frowned down. In the olden time the occult electrical force was freely used by physicians of all schools, empirically at best; yet cures apparently marvellous are reported as having thereby been worked in cases otherwise unmanageable. The principles upon which rational medicine were based as they became better understood assigned static electricity to a legitimate and not by any means narrow field, in which, through the instrumentality of skilful men, much good was then and is now done; and had it not been for inherent difficulties in its application, which were not overcome until lately, its usefulness would at this time have been more widely known, and it would have been more generally employed. For reasons hereafter stated, the increasing use of galvanism and faradism in nervous disorders threw static electro-therapeutics into the shade; and, with very few exceptions indeed, those gentlemen who employ electricity at present in practice have paid no attention whatever to this branch of the subject. That static electricity, properly used, possesses great value is beyond question, the evidence of eminent practitioners, especially in Europe,—as Wilks, of England, Clemens, of Germany, Sewanda, of

Austria, Vigoreux, of France,—proving the correctness of this statement. For nearly thirty years past I have been interested in general electrical studies, and from 1866 the subject of electro-therapeutics has occupied much of my time. Having during this period given special attention to static electricity, despite the disadvantages surrounding its successful use, I hope the effort to awaken a new interest in it will not be felt as an undue trespass upon your attention. As this form of electricity was formerly much used in therapeutics, yet was discarded until lately, there must have been some reason for its abandonment; and, briefly stated, the discouraging efforts to obtain uniform results from even the higher-class machines of to-day are such as to require more interest and patience than most practitioners command. In damp weather they work feebly or not at all; and the effort to remedy this defect by the isolation of the machine in air-tight cases with contained vessels of calcium chloride, anhydrous phosphoric or sulphuric acid, etc., have failed long ago. The refusal to act does not always depend on dampness, but at times the electrical atmospheric and earth tension is so low as to render the best apparatus difficult to start. The high cost of the instrument was also an impediment, and this being true of the carefully-made modern apparatus made the use of the less perfect mechanism in the past impossible. Within a short time past the Holtz has been modified by Toepler, of Riga, and also by Voss; and Messrs. James W. Queen & Co., of this city, have still further improved it, the result being a machine with which static electricity is produced in large quantity and high tension, the sparks being quite dense and very long in proportion to the size of the instrument. It works admirably in almost every atmospheric condition, even when sprayed with water, and is moderate in price. When ordinary machines will not work and this is sluggish, a few sparks from a Ruhmkorff coil will charge the armatures and insure perfect action. Those who take interest in experimental work in this direction have now at their command an exceedingly handsome and valuable apparatus.

With the advent of Queen's Toepler-Holtz, the relative value of the different forms of apparatus is equalized; indeed, in some respects the static machine has

superior claims. In the hands of competent persons it is not so difficult to keep in order as galvanic and faradic instruments, and it costs nothing to run when driven manually; and an exceedingly perfect electric motor can now be had which rotates it at a cost so moderate as to be virtually disregarded,—the battery also, as arranged by myself, furnishing a galvano-caustic current, if desired, of sufficient quantity for ordinary office purposes. Dynamic apparatus, on the contrary, is continually burning up zinc in proportion to the de-

no true induction takes place; but, as a current may be had by attaching the conductors to the outside foil of the condensers,—one to each,—with the connection broken between them by a switch, as in my own machine, or by removing the chain or wire as ordinarily found, the energy developed on the plates is transferred to the inner coating of the jars only; and the fine and almost painless current thus obtained is really an induced one, precisely as the secondary is in the faradic coil. The strength is regulated by adjusting the



The machine illustrated consists of a stationary adjustable back plate and a revolving front plate. When put in motion, a small quantity of the electricity generated on the revolving plate is taken from the small metallic disks by brushes on the arms, *a a'*, and transferred to the armatures, *c c'*, on the back plate. This plate, when charged, reacts upon the revolving plate by induction, and electricity is taken therefrom by combs on the horizontal cross-arms, and passes by spark between the discharging-rods, *r r'*. When the condensers, *i i'*, are removed, the flow is continuous and of low tension; when they are in position, as represented in the cut, the discharge is in high tension, the sparks being smaller and more rapid, as the sliding-rods, *r r'*, are near each other, and slower and denser, the greater the separation of the balls. The vertical cross-arm equalizes the charge on the revolving plate, and prevents the carrying of the positive charge to the negative inductor, and the negative to the positive. The arm should connect the upper left-hand disk with the lower right-hand disk of the armatures on the main plate. The revolution is (on the upper edge) from left to right. Charges of great quantity can be had through one or more Leyden jars, the potential being regulated by the size and number of jars employed.

mand made upon it. The faradic inductorium furnishes one kind of current only; the static furnishes one not to be distinguished from the former in its nerve- and muscle-effects, and has additionally qualities of value *per se* not possessed by faradism. The static machine furnishes direct and induced high-tension currents, either and both of which are of immense value in varied phases of disease, and which are preferable to drugs in many instances.

The assertion has lately been made that, although the term "induced current" is admissible for convenience of expression,

discharging-rods as in the ordinary use of the machine.

With the desire to interest the profession, if possible, in the value of static electricity, and to aid in even a slight way in rescuing it from undeserved oblivion, I wrote, last January, a short paper for the *Medical and Surgical Reporter* on the subject; but unseen delay, through the loss of an electrotpe cut, prevented its publication till March 12, when it was followed by a series in the *New York Medical Record*, by Dr. Morton, of that city. Subsequently other articles have appeared, both

in domestic and in foreign journals; and it is to be hoped that practical results superior to those obtained heretofore will be secured by static electricity in the much better light thrown upon obscure nervous diseases by the present race of great pathologists than was possible in the past, under less advanced teaching.

In a paper on "The Treatment of Dysmenorrhœa by Electricity," which I had the honor to read before this Society at its first meeting in the autumn of 1880, the following sentence occurred: "A most valuable but neglected method in neuralgia, not alone of uterine origin, but of all types, is the use of *static* electricity from the Holtz or Bertsch machine, which will often succeed after failure of all other proceedings."

A few cases in illustration of its value are now briefly given.

A. B., a case of melancholia persistent for four years, intensifying periodically without apparent cause, in all except the mental state well developed and healthy, habits regular, and not at any time hysterical or excitable. She had received medical treatment for more than three years from different physicians without perceptible benefit, including a brief residence in a private asylum. The circumstances of the family prohibited change of scene, which with new associations might have been of service. Drugs failing, she was referred to me for electrical treatment, her physician being glad to drop the case. I put her on general faradization four times a week, with some benefit after a month's trial, but, not being satisfied myself, I substituted static electricity, and her improvement in another month was decidedly greater, and then she was at times not only cheerful, but her interest in surrounding affairs was noticeable to her associates. This method of treatment, without any auxiliary, in four months did more towards recovery than all former plans combined, and so far the improvement is permanent. She was treated by simple charging when insulated tri-weekly, the condition being maintained for half an hour at each time, and, although to my mind she is yet abnormally depressed at times, she is in every way better, and her friends consider her recovery perfect, which opinion, after all, is in more ways than one weightier with the neighbors than mine. Her last physician, an extremely polite gentleman, agrees with the family: hence I concede the verdict and consider her cured.

O. D., a case of well-defined epileptiform hysteria, originating in congested irritable ovaries. Her suffering was intense before and during menstruation, and more or less decided paroxysms were obtainable through pressure upon the ovaries at any time. I put

her at once upon static electrical treatment, applied generally and with special attention to the foci of irritation. The sittings were tri-weekly, occasionally daily, and in two months she was marvellously improved, to quote her mother's words. Very decided pressure upon the hysterogenic regions now failed to discompose her, or at most precipitated mild reflex results, and only a day or two ago I noticed how particularly bright and cheerful she was as compared with her condition when I first met her. Nothing in the way of drugging by myself was done during the time mentioned, and the Hoffmann's Anodyne, elixir of valerianate of ammonia, musk, and other antispasmodics which had been relied upon previously in domestic practice were withdrawn totally when she came into my charge. This young lady is a type of thousands of such cases which are the bane of many physicians, and she would with some have run a risky race in the direction of oöphorectomy, the prevalent panacea for such unfortunates. I have every reason to expect a perfect cure in her case; and if decided relief or cure can be successfully looked for by this method in even a fair percentage only of these melancholy girls thus afflicted, it would warrant those dealing largely in nervous diseases to investigate this plan of treatment thoroughly.

Mrs. H. suffered for several years with periodical trifacial neuralgia, which was intensified during menstruation, at which time ovarian neuralgia was usually added. She presented no cause in the way of imperfect teeth, indigestion, or depraved secretory action, nor did her social position expose her to cold or wet. Quinia, iodoform, belladonna, morphia, and other drugs had been exhausted without other than temporary benefit to the face symptoms and none to the ovarian. She came to me for electrical treatment, and had thorough galvanic applications locally, with general faradization. Although her strength and nutrition were improved, the paroxysms were apparently merely shortened when present and somewhat delayed, and after a fair trial I became dissatisfied with the progress, which would, doubtless, if persisted in, have ultimately cured her as it has done others; but, in view of a trip to Europe, I wished, if possible, to finish the case prior to her departure. She came to see me one afternoon when suffering considerably with supra-orbital pain. I had been working with my Holtz, rehearsing some experimental illustrations for a lecture, and, to amuse her while the constant battery was being set up (it having been disconnected for recharging just before she entered), I electrified her pretty thoroughly, and drew sparks from the brow and temple for some minutes, with the effect of completely removing the pain before she left the chair. Both constant and induction currents have done the same thing for me repeatedly, with others, but not in her

case. She became enamored of the new battery, and I complied with her request to further test its merits, with the result of permanently relieving her trouble before she left the city. The method employed was to charge her and draw sparks from the affected regions with the knuckles or a wire brush. She had tri-weekly treatment of all applications, but a dozen sittings under static electricity did more for her than treble the amount of the others separately or combined, and she has remained well. Had she not been cured before her European tour, either the voyage or some Continental physician would have got the credit, for she was nearer well than I thought at the time the static electricity was commenced.

Mr. McC., an old patient of mine, had been gradually growing worse from intercostal pain laterally over the fifth rib, always constant, but with exacerbations at irregular intervals, and usually worse at night. There was no discoverable cause, yet he became daily poorer in weight and general appearance, despite tonics and good feeding. Neither galvanism nor faradism was of service; his only resort was anodynes, but he disliked as much as myself to push them. With the good result of the preceding case in memory, I got his consent to try the Holtz, although he had no faith whatever in electricity. He got better from the first trial, and in three weeks was a different-looking man. In addition to drawing sparks from the seat of pain, which was circumscribed and small in area, I discharged a small Leyden jar at the centre of the painful region at each sitting, and finished the *séance* by thoroughly charging him and allowing the charge gradually to escape without drawing it by spark. Two months of treatment relieved him completely, without any assistance from medication. It is true that at long intervals he has slight twinges, but they are momentary, and no painful spot is now discoverable on pressure, as at first. My opinion for some time was that an exostosis existed at some internal point along the rib, which produced the peripheral pain through pressure on the intercostal nerve, and that he was therefore incurable; but the result of treatment disproved this idea. He had no syphilitic, gouty, or rheumatic diathesis, and nothing apparently chargeable to the sympathetic, and I am still at a loss to account for the causation of his suffering. I am inclined from experience to attach considerable value to the so-called "positive charge" of Radcliffe, as here practised, in deficient nerve-tone, it holding much the same relation as general galvanization or general faradization in bracing up neurasthenic patients.

H. R., a youth of seventeen, who previously enjoyed excellent health, became affected during the winter of 1879 with neuralgic pain of the left testicle, cord, and per-

neum. The suffering at times was very great, especially in, as he thought, the lower part of the rectum, which, however, I ascribed to the vesiculæ seminales, or some point in the cord as it approached the *veru montanum*. Upon investigation, I was convinced that the trouble arose from masturbation, the semen being prevented from escaping by pressure over the urethra at the anal region, which possibly had produced distention of the duct near its emergence into the urethra. At any rate, he was alarmed at his condition, and relinquished his fault; yet the pain was persistent. He was kept on full doses of the bromides to allay excitement of the genito-urinary tract, and suppositories of belladonna were used at bedtime, with camphor and lupulin. Progress, though present, was slow, and, after being satisfied of his good faith in avoidance of masturbation, and the suffering being evidently neuralgic, I put him on static electricity, without trying either the coil or constant battery, and discontinued the medicine. Improvement was decided from the first, and a couple of months only passed prior to an entire cure. My object in adopting this form of electricity was purely experimental, because, as stated in several published papers, my uniform habit in urino-genital cases is to apply galvanism. He has had no return of the pain at any time.

I have seen each of these cases since writing this paper, and they all remain well. Some of them are of long standing; and the result may therefore be taken as permanent. I regret the constrained brevity of the report; but time will not admit of more extended remark.

In reporting these cases, selected from a number, I have no desire to deprecate other forms of electricity in neuralgia or similar phases of nervous disease. My experience with galvanism particularly confirms daily the high position it of necessity occupies when scientifically handled, and, although not an unqualified endorser of Duchenne in his estimate of faradism as equal in all respects to galvanism, I know how valuable it is; but my purpose in bringing before the profession the claims of static electricity is simply to do justice to an agent almost forgotten, yet of great value in a wide field, and one which has the additional advantage of being easily manipulated under improved forms of mechanism, agreeable to the patient, safe in its application to points demanding great caution with the pile, and especially in brow-neuralgias, in which faradic currents are obnoxious to many people.

One great advantage to diffident persons

is that little or, if chosen, no clothing need be removed, as applications can be effectively made through the dress without any danger of damage to the most delicate or costly fabrics, and this cannot be done with dynamic electricity. The patient should generally be insulated on a small platform two feet or more square, which may be home-made by using glass or porcelain knobs, one pole connected with the chain or patient, the other grounded, and the machine then set in motion. Brass chain No. 16, encased in black rubber tubing, I prefer for conductors; but handsome braided silk cords may be had from the makers if chosen. An insulated ball or pointed electrode, also grounded by wire or chain, is then approximated to the person of the patient, when the flow will be diverted almost wholly to the point selected. The charge escapes from every part of the surface, more or less, but particularly from angles or projections, as the elbows, knuckles, knees, face, and hair, creating a sensation as though air was smartly blowing upon the cuticle. The electrode being held at from four to six inches from the body produces this "wind" decidedly at the underlying point. At two to three inches a line or brush of delicate rose-colored or violet light (the "aigrette" of the French) is seen, and closer application short of actual touching develops dense disruptive discharges in the form of bright white sparks, slightly blue-tinted, as are all electrical flashes, however produced. The blue tinge is probably due to incandescent nitrogen. The silent or "aigrette" discharge is, with the so-called "wind," pleasant and painless; the spark is more or less sharp according to its tension as produced by rapid rotation of the machine or concentration by Leyden jars, single or in battery. The current may also be taken from the discharging rods direct, from the inner foil of one condenser and the outer of the other, as done by Dr. Bartholow, or, as before stated, the induced static current as devised by Dr. Morton, of New York, is had from the outer surfaces only of the condensers, they being separated from each other, yet attached by the inner foil only to the collecting combs. The "aigrette" can also be had by attaching the cords to the rods and removing the condensers. A method which I frequently use is to disconnect the condensers, attach a cord to the outside of either (the positive being

the stronger), and with a suitable electrode apply the current, the patient not being insulated. This method has not, to my knowledge, been before described, and it is at once simple and efficient. In whatever manner used, the electrometer should be employed to properly graduate the current, Pelletier's being the best instrument for this purpose.

Time forbids extended reference to phases of disease which have been overcome by static electricity or in which we may reasonably expect good results. In my own experience of particularly the last ten years, excellent success has been had in varied neuralgias, in hyperæsthesia and anæsthesia, in one case of paralysis agitans, which, though of course incurable, was materially benefited, in chorea, hysterical aphonia, stubborn dyspepsia, constipation, dysmenorrhœa and amenorrhœa, myalgia, and the weak back of school-life, in insomnia, highly so in pain of many descriptions, but particularly in that of gouty joints. The objection that static electricity accumulates only upon the skin is not strictly true, but, if it were, the principle established by Brown-Séquard, that decided reflex results on deep-seated parts is obtained through peripheral irritation or sedation, justifies the use of this agent aside from the absolute proof of its value resultant from clinical experience. I am satisfied, however, that strong disruptive discharges will pass directly through, for instance, the arm or thigh. In using any form of electricity, I have observed what appears to be a curious fact in individual susceptibility to resistance as concerns the skin, which is that the fairer the skin the more readily does the current penetrate it. Less resistance is interposed to galvanization in blondes than in brunettes when operating on deeply-seated points, such as the solar plexus, and as the color deepens so does the call for added power increase. Even in the same patient (a case of cervico-brachial neuralgia) the susceptibility varied according to the degree of tanning or sunburn present during the summer, whilst in a relative, also under treatment, who was defaced by lentigo but who did not tan, identical results were obtainable at any season, my explanation to her being that the current slipped in between the freckles, as water would slip through the meshes of a sieve. Negroes require stronger currents than albinos proportionally to

depth of pigmentation, and static electricity escapes rapidly from their persons. I do not know that this matter has been referred to, or that such is the opinion of others; but my conclusions are the result of experiment in many applications to many subjects.

Static electricity will not, of course, supersede galvanism; it will, however, I believe, hold its own with faradism, and a thorough investigation of its merits under better auspices will show it deserving of its place in the consulting-room of the physician who knows the value of electricity in all its forms. So far I know of only two physicians in this city in addition to myself who possess static machines, and one of them has not yet given any attention to the subject. I hope to obtain better statistics shortly through hospital practice, if I can manage to interest the residents or to attend to suitable cases myself. I was greatly surprised not long ago to hear from an unusually intelligent gentleman of large practice that in many suitable cases he did not avail himself of his very complete and handsome apparatus from the fear of being considered *an electrician*. Now, although I did not believe him to be in earnest, the remark reminded me of credit lost by equally capable gentlemen from similar timidity (if a mild term is applicable) in patients who were cured by such treatment as they declined to adopt. Electro-therapy is the peer of any other plan of treatment; it needs no defence, but merits wider recognition; its promoters have done as much in the alleviation or cure of stubborn disease, not simply in general practice but in the so-called specialties, be they legitimate or superfluous, as have the most eminent practitioners with other means; and its abuse—for it has been shamefully misused, as has every valuable agent which we possess—has been confined to advertising quacks. It will be well if so much can truthfully be said of the increasing “ologies” that beset the struggling beginner in general practice. We are ourselves largely responsible for the maintenance of quackery, because we neglect valuable aids to success which these cormorants gladly seize. Every plan—good, bad, and indifferent—they try; they work much harder than is generally supposed, and they are respected in high quarters notwithstanding their business methods: in fact, they stand on a par with

the educated physicians with many intelligent persons, so far as concerns the welfare of the family itself. When the thoroughbred horse gets sick, however, the best obtainable veterinary surgeon is had instantaneously.

“The shrewd adventurer, fresh from parts unknown,
Kills off the patients Science thought her own.
Towns from a nostrum-vender get their name;
Fences and walls the cure-all drug proclaim;
Plasters and pads the willing world beguile;
Fair Lydia greets us with astringent smile;
Munchausen's fellow-countryman unlocks
His new Pandora's globule-holding box;
And as King George inquired, with puzzled grin,
“How—how the devil got the apple in?”
So we ask how—with wonder-opening eyes—
Such pygmy pills can hold such giant lies!”

Of course charlatans do much moral and physical injury to their patrons, but they also cure numbers who fail to get relief from legitimate medicine. The remedy for this state of affairs is to avail ourselves of every aid systematically; and in advocating the claim of static electricity to notice I embrace this opportunity to decry the popular opinion that electricity in any of its forms is an absolute panacea. It will in appropriate cases cure the patient unassisted by drugs, in others it requires the aid of medication according to indications, and again at times it plays a minor part in treatment. It is directly contra-indicated in the early stage of some diseases where later it is invaluable, and in many cases it is useless throughout. To justly serve his patient, let the practitioner arm himself with the most approved instruments of every nature, and, keeping up with the times through his books, his journals, and his medical society, give battle to humbug of all kind and degree, with the certainty of vanquishing it through superior ability as a physician, ethical standing as a gentleman, and the respect uniformly held by the people—rich or poor—for known skill in the noble profession of saving the perishable body, second only to that which aims to save the immortal soul.

246 NORTH TWENTIETH ST.

A CASE OF RUPTURE OF SMALL INTESTINES.

Reported by ALEX. MARCY, JR., M.D.

THOMAS F., æt. 24, married, was admitted to the surgical ward of the Presbyterian Hospital under the care of Dr. William G. Porter, August 20, 1881, for an injury received at the Baldwin Locomotive Works.

* Dr. Oliver Wendell Holmes.

On admission, his condition was as follows: Pulse, 80 to minute, full and strong; temperature, 99° F.; perfectly conscious; surface of body warm. Said he had been struck in abdomen by a piece of "ash wood" which a man was sawing with a steam circular saw. The piece was two and a half feet in length, nine inches in width, and two and a half inches in thickness. The force with which it was projected was sufficient to knock him down, and it was with difficulty that he regained his feet, only to immediately resume the recumbent posture.

On examination, the abdominal muscles were found firmly contracted; there were spasmodic contractions of the muscles of the lower extremities. He complained of great pain, which could not be located by him. In the left inguinal region, just above and to the inner side of the iliac crest, there was an abrasion two inches in length, and one and a half inches in width, with some tenderness on pressure. There were no other evidences of injury on body.

Soon after being admitted, he complained of feeling cold: external applications of heat soon overcame this. He was seen by Dr. Hext M. Perry for Dr. Porter. Dr. Perry ordered morphia sulph., gr. $\frac{1}{4}$, by hypodermic injection; soda-water and cracked ice for the intense thirst from which he suffered. At 9 P.M. the morphia had to be repeated, and again at 12. Under its influence he rested comfortably. Sunday morning his temperature was 100° F.; pulse, 112; respiration, 20. There was great pain, with some tenderness over the seat of injury. Administered morphia sulph., gr. $\frac{1}{4}$; ordered quinia sulph., gr. iv; diet of beef-tea and milk in small quantities, frequently repeated.

Dr. Perry saw patient at ten o'clock. Ordered turpentine stupes over abdomen, and enough opium to relieve pain. $\mathbb{P}$ xxx tinct. opii deod. was given at twelve o'clock, and again at three o'clock.

About four o'clock I was called in great haste to see him. Found him collapsed. Pulse, 180, and very feeble; respiration very rapid and shallow, with some dyspnoea; cold perspiration over body. He was perfectly conscious, and complained of great pain. Gave $\mathbb{P}$ x tinct. digitalis, with gr. $\frac{1}{4}$ morphia sulph., by hypodermic injection, and $\mathbb{P}$ xxx spt. ammon. aromat., with $\mathfrak{f}$ 3ss spt. frumenti, by stomach. External heat was applied.

In twenty minutes no pulse was perceptible at wrist; heart beat tumultuously, but the sounds were distinct. Repeated the hypodermic injection.

Dr. Perry saw patient, and advised spt. frumenti $\mathfrak{f}$ 3j to be administered hypodermically, to be repeated in twenty minutes if necessary. No improvement occurring, it was repeated, and in addition $\mathbb{P}$ xv aq. ammon. fort.

In spite of all stimulation, no reaction could be brought about, and he died at 7

P.M., twenty-eight hours after injury. Eighteen hours after death, a post-mortem examination was made in the presence of Drs. Perry and Slocum. The abdomen and scrotum were distended with gas. Over the seat of injury there was great discoloration and evidence of commencing decomposition. The peritoneum was discolored and injected; in its cavity was a quantity of liquid of a dark grumous color, looking as if it had escaped from the intestines. The viscera were carefully examined. Liver, stomach, spleen, kidneys, bladder, and large intestines normal.

Over the small intestines were scattered flakes of lymph. Their walls were softened. At the lower part of the jejunum a rent one inch long was found in the longitudinal direction of the gut. Its edges were irregular and ragged. The rest of the gut was perfectly normal, except that it exhibited those changes incident to a commencing inflammation of its walls. The omentum was very vascular and of a dark color, with small particles of lymph matting it together.

It was very plain that the intestine had been ruptured by a blow upon the abdominal walls.

The peculiarities of the case were that the injury, though of so severe a nature, was attended with the slightest, if any, evidences of primary shock, and that the jejunum, instead of the descending colon, was injured. The reason of the latter probably was that the accident occurred at a time when the descending colon was—or, if not, should have been—empty, while the small intestine, and especially the duodenum and jejunum, were filled. For the former I offer no explanation. The cause of death was most likely shock produced by the incipient peritonitis, there being such a large amount of the serous membrane involved, not only that which was torn, but the entire cavity, from extravasated contents of the intestines. Had death been due to the shock resulting from the injury, it would most likely have manifested itself earlier, and there would not have been observed evidences of commencing inflammation, as the temperature and pulse of the next morning showed there were. Secondary or insidious shock is almost always due to the formation of heart-clots. Such was not the case here.

As to the treatment. There were no indications in this case, excepting the collapse which preceded death, which would have led me to suspect so grave an internal injury. The temperature and pulse of the next morning indicated nothing but a localized peritonitis. The pain might

have been referred to the same cause. There was nothing to do but relieve the pain and attempt to combat the possible inflammation which might follow. This was done by the administration of opium, quinia, liquid and low diet, with external applications to the abdomen.

PRESBYTERIAN HOSPITAL.

CANCER OF THE LOWER END OF THE ŒSOPHAGUS, AND OF THE MEDIASTINUM, THE LATTER INVOLVING THE HEART AND GREAT VESSELS.

Read before the Philadelphia County Medical Society, September 21, 1881.

BY J. T. ESKRIDGE, M.D.

I AM indebted to Drs. F. and O. for the history of the following case:

Mr. R., a German, æt. 48, a brewer by occupation, says that, when a lad, he had an attack of dysentery; and five years before the beginning of his present illness he suffered from pneumonia. He was married, and had a large family of healthy children. He said that, outside of moderate drinking, he had led a regular life; he had not suffered from any venereal trouble, and, so far as he knew, no disease was hereditary in his family. Eighteen months ago an oppressive feeling began in the epigastric region, followed soon after by an emesis of clotted blood, which was repeated once, after an interval of twelve hours. The next six months he was troubled with obstinate constipation, retching of wind, nausea, vomiting, and pain; the latter (usually dull, but occasionally lancinating) was limited to the cardiac end of the stomach. The gastric symptoms, particularly the pain, were aggravated soon after eating. Within a year after the first appearance of the dyspeptic symptoms emaciation was apparent. Ten months after the initiatory symptoms, he noticed a difficulty in swallowing solid morsels of food, the bolus being some time in passing into the stomach. When a severe paroxysm of pain attacked him, attended by a sense of oppression in the epigastric region, he vomited a quantity of clotted blood, which gave immediate relief.

He was under the care of various physicians for eighteen months, but no bougie had been used. At this time we were called in, and made the following notes in addition to the above history. He had lost fifty pounds in weight, was suffering with constant pain in the epigastrium, experienced great difficulty in swallowing, and was annoyed by various dyspeptic symptoms, and an occasional vomiting of blood. There was a cancerous cachexia. Cold drinks increased the gastric pain, but warm ones decreased it. The lungs and heart were apparently healthy, and only a supposed

hæmic murmur was heard at the base of the latter organ. A bougie one-half inch in diameter encountered too great resistance in the œsophagus to allow it to pass into the stomach. A smaller one was tried, and met with slight resistance opposite the upper border of the sternum, but when the instrument reached the lower end of the œsophagus, considerable force was required to carry it through the cardiac orifice. A few minutes after the bougie was first passed, a small hemorrhage occurred. By gradual dilatation of the strictures, we were able to pass, occasionally, a bougie one-half inch in diameter for three months, during which time our patient gained twenty pounds in weight and improved considerably in his general appearance. On our giving an unfavorable prognosis, a consultant was summoned, who substantiated our view of the case, but raised a doubt as to the malignancy of the growths, on account of the gain in flesh and general improvement of the man's health during the dilatation of the strictures. After the half-inch bougie had been passed every third or fourth day for a few months, its introduction required considerable force, and gave too much pain to continue its use. Smaller sizes were used, until one only a quarter-inch in diameter could be passed. This size could be used to the great relief of the patient until his death. Sometimes mucus and clotted blood accumulated in the œsophagus, between the strictures, and gave rise to so great distress that large doses of anodyne were required. At these times, if the small-size bougie was passed, he experienced immediate relief without the use of opiates.

His cough was troublesome and laryngeal in character. His heart was repeatedly examined, but no organic trouble was detected, or even suspected. A short time before his death he spat up considerable matter resembling the nummular sputa of phthisis.

He died of inanition, in April, 1881, nearly two years after first complaining of gastric distress.

The autopsy was made about twenty-four hours after death, by Dr. Ott and myself. The body was greatly emaciated, only a thin layer of fat being found in the abdominal walls. Only the organs in the thoracic and abdominal cavities were examined.

Thorax.—The lungs were slightly œdematous, otherwise they were in a normal condition. The pleural cavities contained a few ounces of serous effusion, but the pleuræ were healthy, except at their upper anterior and inner borders, where they were adherent to a large growth. A large tumor surrounding the trachea, bronchial tubes, œsophagus, and large vessels near the heart was situated in the mediastinum. It was four inches in its long and three and a half inches in its short diameter, and extended in its long axis from a point opposite the upper border of the sternum downward. The pericardium, normal be-

low, was thickened in different places above, and contained one to two ounces of serous fluid. It was not adherent to the heart or pleuræ, except at its upper portion, just before it is lost in the coats of the great vessels, where general and firm adhesions were found between the tumor, heart, and blood-vessels.

Heart.—Right auricle healthy; right ventricle thickened at its upper portion by yellow-looking tissue; left auricle normal in its lower two-thirds, but adherent to and thickened by the tumor above; left ventricle apparently concentrically hypertrophied, and its upper portion thickened by a suspicious-looking mass; valves healthy.

The aortic arch throughout its entire extent lies partly embedded in the morbid growth, with its coats, to the extent of an inch, greatly thickened, being three-eighths of an inch thick at the junction of the vessel with the heart. The calibre of the aorta is lessened as far as the thickening of its walls extends, but becomes normal, or is enlarged, beyond.

The walls of the pulmonary artery are thickened in length about two and a half inches, beginning at the heart, the vessel itself being tightly adherent to the adjacent growth. The pulmonary veins are entirely surrounded by the tumor, and their walls seem to have undergone considerable change, but their calibres remain nearly normal.

The œsophagus, at its upper portion, is also surrounded by the growth which encloses the neighboring structures, four inches of its length being embedded in its substance from a point opposite the upper border of the sternum downward. The calibre of the tube at the upper portion of the tumor is almost entirely obliterated by pressure of the growth from without, and by an extension of the morbid process from the inner wall of the gullet. A growth three-quarters of an inch thick, at the cardiac orifice of the œsophagus, is found in its walls on one side, which produces a distinct curve in this portion of the alimentary tract, and greatly lessens the calibre of the tube, thus accounting for the extreme difficulty experienced in passing the bougie. The wall opposite the growth is only slightly thickened. The œsophagus is considerably dilated between the two strictures, and its walls are thinned. Two or three inches of the lower portion of the trachea, and the beginning of the bronchial tubes, are embedded in the growth. The mucous surfaces of these tubes, as well as that of the œsophagus, are considerably disorganized, evidently having been the seat of hemorrhage; especially is this true of the œsophagus. The pneumogastric and phrenic nerves escaped injury.

Abdomen.—Stomach normal, liver anæmic; pancreas contained a suspicious growth; kidneys, bladder, and bowels in a good condition.

Remarks.—In such cases as the one before us, where the œsophagus is narrowed

and its cavity tortuous, a flexible bougie like those made of late for the urethra would be much more easily and painlessly passed than one after the pattern in ordinary use.

The murmur referred to in the clinical history of this case as being hæmic had its origin undoubtedly in the anæmic state of the blood and the changed condition of the great vessels that come from the heart; although, had the blood been in a normal state, the lesions in the aorta and pulmonary artery are sufficient to have given rise to a systolic organic murmur of considerable intensity at the base of the heart.

It may be asked, why was not the cardiac complication diagnosed during life? Cancer of the heart limited to this organ, unless it becomes large enough to give rise to considerable dulness or pressure-phenomena upon nerves, bronchial tubes, or œsophagus, is rarely detected *ante mortem*. This specimen shows the tumor to be large enough to have given rise to decided increase in the cardiac dulness; but we must remember that the stricture of the œsophagus was an early and distressing feature of the case, absorbing all of the attending physicians' attention, and that the heart complication probably did not take place until a short time before death, when there was too much exhaustion present to allow of a thorough physical exploration of the chest, seeing that no good to the patient could come out of it. Further, when a growth begins around the œsophagus, and gradually extends towards the surface of the chest, giving rise to dulness and pressure-phenomena, as manifested by pain, bronchial irritation and obstruction, and murmurs in the great vessels, it is very difficult—nay, almost impossible—to diagnose cancer or other involvement of the heart muscle, if the valves of the cardiac orifices have escaped unscathed.

Mediastinal tumors are usually of the nature of carcinoma, sarcoma, or lymphosarcoma; the last variety is generally primary, the first two appearing more commonly as secondary growths. From the appearance of the tumor before us, although a microscopical examination has not yet been made, I think it belongs to the second variety, or sarcoma. The mediastinal tumor in this case is evidently secondary, for symptoms at the cardiac orifice of the œsophagus antedated by several months those developed higher up in the same organ.

There is one interesting feature in the clinical history of this case. The consultant, who saw the patient only once, questioned the malignancy of the œsophageal strictures, because the man had gained twenty pounds in weight in six weeks, dating from the time that the bougie was first passed. It is but just to state that the attending physicians held firmly to the view that the obstructions were of a malignant character, basing their opinion on the presence of the cancerous cachexia; on the constant gnawing (sometimes lancinating) pain over the seat of the strictures, although they were sufficiently dilated to allow the ingestion of solid food; on the absence of the history of injury to the œsophagus, either from blows over the sternum, or from swallowing caustic or other irritating liquids; and on the improbability of the growths being of a syphilitic nature and improving without specific treatment. After an individual has been suffering from a malignant growth until great emaciation is present and the patient is apparently almost ready to succumb to the ravages of the disease, it is such an unlooked-for thing for him to gain twenty pounds in flesh and improve in his general health that we are inclined to doubt our diagnosis when such a change occurs. It is impossible to effect so great improvement when the emaciation is due to the depressing influence of cancer *per se* upon the system. When, however, a stricture, benign or malignant, occludes the passage-way to the stomach, emaciation results largely from mechanical obstruction, which removed, the unfortunate sufferer is able to take sufficient food to cause temporary and marked improvement.

To the judicious and persistent use of the bougies by the attending physicians we must attribute the gain in flesh and the improvement in the general appearance of the man whose œsophagus with its strictures I now present to the Society.

ANTISEPTIC SOAP.—Dr. Reed (*Glasgow Medical Journal*) says that no physician should examine a woman without bathing his hands in 1-20 carbolized water and lubricating them with Athill's soap, which consists of pure soft soap, 3 parts, glycerin, 1 part, and carbolic acid, 5 grains to the ounce. That used by Dr. Reed has 10 grains to the ounce, and is made more agreeable by the addition of a little bergamot.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINIC OF JOHN ASHHURST, JR., M.D., PROFESSOR OF CLINICAL SURGERY.

Reported by CHARLES S. DOLLEY.

COMPOUND FRACTURE OF TIBIA AND FIBULA.

THE first case I present to you to-day, gentlemen, is a rather serious one,—a compound fracture of the leg. It will give you an opportunity of seeing the manner in which these injuries are dressed in our hospital, as well as an idea of the appearances of a bad compound fracture.

By the term compound fracture we mean one in which an external wound communicates with the seat of fracture. We may have simultaneously a fracture and an external wound; but unless there be a direct or indirect communication between the two, it is not a compound fracture. Again, we speak of complicated fractures. Thus, a fracture accompanied by a dislocation of the same limb would be a complicated fracture. On the other hand, a comminuted fracture implies that there shall be at least three fragments. We may, however, have two distinct fractures; but if the lines of fracture do not communicate, we will have a multiple, and not a comminuted, fracture. The lines of fracture must communicate to produce the latter. The first question that arises in a case of compound fracture is whether the limb can be saved. Now, if the leg has been run over by railway-cars or a heavy vehicle, we usually find great contusion and laceration in addition to the fracture, and amputation is commonly required; while if we decide to try and save the limb we must expect suppuration, sloughing, gangrene, and perhaps necrosis, sometimes compelling us to resort to secondary amputation at last. Primary or immediate amputation is also called for when the great vessels and nerves of the limb are wounded. Fortunately, in the case before us, the great vessels are free from injury. There has been no arterial hemorrhage, but simply an oozing of dark venous blood. The great mobility of the limb indicates that both tibia and fibula are broken, for, when only one bone is broken, the other acts as a sort of splint and prevents great mobility.

The tibia seems to be broken almost transversely in its upper third, but we cannot distinctly locate the fracture of the

fibula. Now, what shall we do to save this limb? If the wound were a very small one, the first thing to be done would be to seal it up in some way, and thus try to convert the case into one of simple fracture. For this purpose collodion, compound tincture of benzoin, white of egg, or stitches may be employed. In this case the wound is of such a character that it is not possible to effect primary union; and should we introduce stitches, they would probably cut out, and might cause sloughing by producing increased tension.

We will therefore bring the wound together as well as possible by means of a few adhesive strips placed spirally, so as to cause no circular compression, and not entirely surrounding the limb, in order that they may yield a little, and by avoiding constriction prevent danger from gangrene.

We will next apply Dr. J. Rhea Barton's bran dressing. After placing the limb in a fracture-box, we put some oakum under the tendo Achillis, *not* under the heel; for, the os calcis being so near the surface, any pressure on it is liable to cause suffering to the patient. Another pad of oakum is placed under and around the knee-joint, and then clean bran is packed about the limb. The bran has a good effect; it is absorbent, soothing, and cooling, and in case of oozing it creates, by swelling, just enough pressure to prevent hemorrhage of any extent. It is a simple and desirable dressing,—in fact, the most desirable for compound fractures of the leg, but not so easily applied elsewhere.

TRAUMATIC BURSTITIS.

In this case the large synovial bursa just above the patella is involved. The patient, about a fortnight since, received a lacerated wound over the knee, and within a few days suppuration in the bursa has taken place, and we find an opening on the outer side through which flows a thin sero-purulent fluid. We find that handling the knee-joint gives no pain, while if the joint were involved and we had before us a case of suppurative arthritis, we would find that handling gave great pain. The great risk, however, is that the joint may become involved; and it is this we must endeavor to prevent. We have been keeping the limb in a long fracture-box and applying poultices of flaxseed meal, but find that the fluid accumulates in the bursa

between the times of dressing, because of imperfect drainage. I will therefore make a counter-opening on the inner side. It is a rule that abscesses near joints should be opened as early as possible, so that the articulations themselves may not become involved. On passing the probe into the bursa I can detect the point through the opposite wall; here I will make the incision. Now you may see pus escaping from both sides of the bursa. This gives the patient a much better chance. I will pass this drainage-tube through, and tie the ends together in order to prevent its escape. You will notice that I have, by the aid of my finger, made a somewhat lacerated wound, which will on this account be less liable to heal prematurely than if it were a simple cut. Upon examination I find indications of an abscess running up the under part of the thigh. I find that this region is tender and that on pressure there is an increase in the flow of pus from the wound; but the indications of pointing are scarcely distinct enough to warrant an incision. In cases of this kind, however, you cannot be too careful about making daily examinations and an early opening of the abscess. Besides the local dressing, I have employed in this case, as constitutional treatment, 2 grains sulphate cinchona and $\frac{1}{4}$ grain blue pill, given three times a day.

WHITE SWELLING.

Our next case is also one involving the knee,—a synovial disease of the knee-joint. It is not much advanced, but will afford you an opportunity of recognizing some of the characteristics of joint-disease. We notice only slight swelling of the knee, and if you could feel it you would say there was fluid present; but by tapping upon the patella we see this is not the case. In this form of disease (gelatinous arthritis or strumous synovitis) a peculiar point to be noticed is that one portion of the synovial membrane may become involved, while the other parts remain entirely healthy; but if the disease goes on, the whole joint becomes involved, and you may have suppuration and caries, and amputation of the leg or excision of the knee may be necessary. This case, however, which is really the beginning of a white swelling, has not reached such an advanced stage. There is here no pain nor heat, no redness, and but little swelling. If you should have a case of this kind in which there was pain, I

would advise counter-irritation with iodine, and the use of a poultice or the application of

Ung. belladonnæ,

Ung. hydrargyri, aa an equal part.

All that seems necessary now is to place the joint in a position of complete rest, to accomplish which I will apply a plaster-of-Paris bandage. In the application of this form of dressing, first bandage the limb smoothly to about the middle of the thigh and half-way to the ankle, then wrap the knee well in cotton to prevent excoriation and pain, and above this place the plaster-of-Paris bandage, allowing the first bandage to extend out for some distance beyond it, and apply it as far as possible without reverses by making long figure-of-8 turns.

TUMOR OF FINGER.

Our last case is to be the removal of a small growth from over the second phalanx of the ring finger. When the finger is flexed it does not move with the tendon. It may be a little fibrous growth, or a cyst which has become converted into a solid tumor. You see, on its removal, that it contains no fluid, but is a little tumor with a distinct investing capsule. Now, on cutting it open, you will notice that the cut surfaces bulge out, or become convex. This is a valuable sign in mammary tumors, being a pretty sure indication that any growth in which it is observed is of a non-malignant character: the cut surfaces of a scirrhous become concave. After dressing the wound with laudanum, I will place the hand upon a splint. Any operation in which the sheath of a tendon may have been opened may be followed by suppuration extending up and down: hence it is a safe precaution in such cases to put the whole hand at rest.

TRANSLATIONS.

PHLEGMASIA ALBA DOLENS OCCURRING IN A HEMIPLEGIC AND TERMINATING IN GANGRENE.—Dr. De Brun reports (*La France Médicale*, vol. ii., 1881, p. 27) the case of a man of 61 suffering with right hemiplegia and aphasia, following softening of the brain, in whom one day oedema of the right leg was discovered. The left leg also was slightly oedematous. There was no pain on pressure, either on the muscles or along the course of the

veins, and no abnormal appearance of the superficial veins could be discovered. Six weeks later two or three violet-colored patches were discovered on the dorsum of the right foot; the leg was cold and insensible in its entire length. The next day the whole limb was mottled in purplish patches.

The patient died a week later, and at the autopsy the foot and lower part of the leg were found sphacelated. The femoral vein showed a clot along its entire course adherent to one side and leaving sufficient space along the other to permit a considerable amount of circulation. The deep femoral vein and the internal saphenous were filled with a slightly-adherent black clot, as also were the tibio-peroneal and posterior tibial veins. The femoral artery was also filled with a clot, fibrinous and adherent in some places, soft and red in others.

The arterial system generally was extremely atheromatous, especially in the smaller arteries. A curious fact noted was that in the two points where the femoral artery was closed by fibrinous clots the artery was closely adherent to the vein, so that it was almost impossible to separate them. Elsewhere, though united, the vein and artery could be separated without great difficulty. The deep femoral artery showed a soft clot implanted on the fibrous clot of the femoral at the origin of the latter. Heart fatty; no valvular lesions; hypertrophy of the left ventricle. Brain softened in places; atheroma of the cerebral arteries.

Dr. Brun, commenting upon his case, says that, independently of the occurrence of phlegmasia alba dolens in a hemiplegic which has never been noted before, the termination of this condition in gangrene is a rarity. Troisier in his thesis has cited only three cases, and has offered no explanation of their causation. In Dr. Brun's opinion the sphacelus in the case noted resulted from obliteration of the femoral artery. Further, we see here a connection between the venous thrombosis and arterial coagulation so evident that it may be asserted that the former was the cause of the latter. The two points where old fibrinous arterial clots were found were exactly those where the artery adhered intimately to the vein, and where the two vessels were adherent by an indurated interstitial tissue. It was through the influ-

ence of this transmitted inflammation that the arterial coagulation began which resulted in obliteration of the artery and arrest of the circulation. The atheroma did not seem to exercise any influence on the occurrence of the clots, since these occurred at points which were not atheromatous and were absent at atheromatous points.

TRANSPLANTATION OF BONE.—At a recent meeting of the Académie des Sciences (*Bull. Gén. de Thérap.*, vol. ii., 1881, p. 31) Dr. Ollier, of Lyons, presented a communication on behalf of Dr. MacEwen, relative to a case of transplantation of bone successfully performed. A bony deficiency of four and a half inches left in the continuity of the humerus as the result of necrosis arising from suppurative periostitis of the diaphysis had to be made good. The operation was surrounded by several difficulties, due to the fact that all trace of periosteum had been destroyed, and there was no guide as to the line in which the transplanted bone should be placed. Portions of bone were transplanted on three several occasions, the bone being taken from human subjects operated upon by excision of wedge-shaped fragments of the tibia extracted to redress anterior curvature of this bone. These bony wedges were immediately transplanted, with their periosteum attached, into the place prepared for them in the arm of the subject. These small portions of bone adhered to each other, and to the original remnants of the humerus above and below, forming finally a solid limb half an inch shorter than the humerus of the opposite side. Thus by transplantation of bone a useless arm was rendered perfectly useful.

The conclusions to be deduced from this experiment are as follows:

When six cuneiform portions of bone are taken from six different human lower limbs, removed with their periosteum and medulla, divided into small fragments, placed in the arm of a young man, in an intermuscular space, freshly opened by the scalpel to receive them, and when the grafted portions are seen not merely remaining intact in the tissues, but even uniting with one another, making in all four and a half inches of transplanted bone from which a new humerus is formed in all respects like that of the other arm, it may safely be concluded that the transplanted bones have lived and grown.

It should not be forgotten that it is a year and seven months since the first graft was made, and that the bone formed since the cicatrization of the wound made for the reception of the graft has not only preserved its original dimensions but has even grown. This sufficiently refutes the supposition of the absorption of bone after transplantation.

The appearance of the transplanted bone when the edges were refreshed was that of living osseous tissue.

The success which has crowned this operation has proved that the division of the graft into small fragments, and the *a priori* reasons for this procedure, were perfectly correct.

These considerations lead to the following conclusions: 1. Transplanted bone is capable of living and growing. 2. Inter-human transplantations of bone live and grow. 3. Inter-human transplantation of bone may give rise to practical results which shall be of benefit to humanity. 4. The totality of the osseous elements should be comprised in the transplantation. 5. The method of transplantation which offers the most chances of success is to divide the bone into small fragments. 6. To insure the success of the operation, it should be practised with antiseptic precautions.

A PECULIAR FORM OF BLENNORRHAGIC ARTHRITIS.—Duplay and Brun (*Chl. f. Chir.*, 1881, No. 29; from *Arch. Gén. de Méd.*) say that two different kinds of inflammation of the joints are described as resulting from blennorrhagia,—one, the hydroptic, usually confined to the knee-joint, which is never accompanied by swelling of the surrounding tissues; the other, a severer form, accompanied by more pain, with swelling and redness of the joint and surrounding parts. The latter form is not always regarded as blennorrhagic by authors, and is considered very rare. Duplay and Brun, however, do not agree with this view. They have themselves met with no fewer than twenty-four cases of the severer form. Thinking that the affection is often attributed to a wrong cause, they give a more exact description of it.

The affection occurs with equal frequency in men and in women, though its cause is not so often detected in the latter. There is no relation between the severity of the arthritis and that of the preceding

urethritis. The wrist- and elbow-joints are those most usually affected, while the knee, which so frequently suffers from hydrops, is rarely the seat of the severer form of arthritis. No joint, however, enjoys immunity. The affection may develop suddenly while the patient is apparently enjoying very good health, though this is exceptional, as is also its occurrence as a result of trauma. Commonly there is a stage of incubation, with general malaise and darting pains in the externally unaltered muscles and joints,—a pain which disappears again after some days, following which the joint becomes very painful and swells.

Pain is the first symptom: it is particularly severe at night, and is increased to an unendurable degree by pressure on the line of the joint, where also the swelling first shows itself. There is no effusion, as a general thing, but the peri-articular tissue is markedly infiltrated with firm œdema of the skin, which may extend beyond the region of the joint. Pressure outside of the immediate neighborhood of the articulation is not painful, but the swelling resembles phlegmon; and incisions have been made in these cases to evacuate pus, naturally without result. The pain in the line of the joint, and, later, crepitation of the articular surfaces, serves to distinguish the affection under consideration from phlegmon. The authors have never seen abscess of the joint in blennorrhagic arthritis; other writers, however, describe this complication. There is often decided alteration of the articular ligaments, giving rise to abnormal motility of the joint.

The treatment of blennorrhagic arthritis is by immobilization of the joint. After the application of a plaster bandage, the pain ceases and the swelling goes down. The bandage may be removed at the end of four to six weeks, and gentle efforts at movement made, which can usually be done without difficulty. If the immobilizing bandage is not put on at an early date, the joint is stiffer; if not put on at all, permanent ankylosis is apt to result. However, this will occur in spite of everything in a certain number of cases.

Riedel, of Göttingen, who abstracts the original article of Duplay and Brun in the *Centralblatt*, gives two interesting cases coming under his personal observation. In one of these, salicylic acid was used quite in vain.

CASE OF TORTICOLLIS CURED BY GALVANIZATION.—Dr. De Giovanni, says the *Deutsche Medicinische Wochenschrift* (July 2, 1881), reports the case of an unmarried woman of 27, without neuropathic antecedents, who, in 1878, following the death of her mother, fell into a condition of unconsciousness lasting for nine days, and accompanied by tremulous tonic spasm of the head and upper extremities. From that time she became more and more of an invalid, suffered with facial neuralgia, cardiopalmus, and also with a recurrence of the tremor of the head and arm by night. On the 14th of April, 1880, after unusual effort, the tremor suddenly came on with renewed severity, accompanied by a feeling of constriction in the throat, and followed by coma lasting eighteen hours; subsequently clonic convulsions and renewed coma lasting four days. On awakening after this last attack the head was found to be bent to the left and forward, restoration to its original position nearly or quite impossible. All the ordinary means of medication, both internal and external, failed. Examination made on the 16th of June, 1880, showed contraction of the left sterno-cleido-mastoid and trapezius, while the homogeneous muscles of the opposite side felt smooth and soft. The employment of an extremely weak, scarcely perceptible induction current on the left side of the neck and the edge of the trapezius gave rise at once to clonic forward movements of the head, which gradually removed the latter from its abnormal position. After the cessation of the induction current, the deformity, by this time about half remedied, showed no inclination to return. A similar current was now applied to the left sterno-cleido-mastoid, which produced like impulsive movements, gradually restoring the head to its normal condition. The sitting lasted only two minutes.

Giovanni sees in the result of this therapeutic procedure a striking confirmation of the transportation of motor energy from one side, where it was present in excess, to the opposite side, where a defect not only of motility but also of muscular tonus existed. The behavior of the contracted muscles, which lost their almost board-like hardness during faradization, while the muscles of the right side of the neck, seized with rapid clonic movements, gained volume and consistence to a de-

cided degree, is also worthy of note. The recovery of normal condition as the result of treatment was very striking and complete; the left sterno-cleido-mastoid, however, seemed slightly more contracted than the right. The application of metals was employed to complete the cure. The patient left the clinic entirely cured of the torticollis at the end of eight days.

MUCOUS CATARRHAL ANGINA TERMINATING IN SPHACELUS.—Dr. Greslon (*La France Médicale*, vol. ii., 1881, p. 29) was called to see a man 27 years of age who had been suddenly attacked with sore throat and pain in the right tonsil. Examination showed the tonsil markedly swollen, bright red in color, and showing blackish-yellow pultaceous concretions on its internal face. A gargle of borax was ordered. The next day the inflammation had extended farther, the uvula was swollen and œdematous, and the left tonsil was also involved. There was very little fever, and little difficulty in swallowing. During the following days, however, the inflammation gradually subsided under the use of gargles of honey of roses and hydrochloric acid. At the end of a week the inflammation had almost entirely subsided, but the affected parts were the seat of several eschars of a dirty-white color, surrounded by a line of demarcation and inflamed mucous membrane. The breath was offensive, and the patient rejected a tough, viscid mucus. Recovery took place without accident. This curious complication of simple angina occurring in a healthy subject is so rare as to be worthy of note.

VACCINATION PREVENTIVE OF MALIGNANT PUSTULE.—At a recent meeting of the Académie de Médecine (*La France Médicale*, vol. ii., 1881, p. 138), M. Bouquet, of Chartres, gave the experiments of a committee to examine into the preventive vaccination against charbon as practised in the ovine species. A number of sheep from two farms—some vaccinated, others not—were inoculated with a few drops of blood from a "charbon" patient. The first lot of nineteen sheep, taken from the stables of Alfort, which had been vaccinated by Pasteur, survived the inoculation. Of sixteen sheep from elsewhere, all but one succumbed, presenting the lesions of malignant pustule. The blood inoculated was taken from a sheep dead of malignant pustule some four hours previous to the experiment.

VACCINAL SYPHILIS.—A letter to *La France Médicale* (July 30, 1881) says that the Algerian journals are full of the most lamentable details regarding the numerous cases of syphilis which have appeared in the garrison of Algiers, following a public vaccination made on certain Algerian soldiers. It is said that fifty-eight young men have contracted syphilis by being vaccinated with lymph given by a syphilitic infant. The medical journals are as yet silent on the subject.

A PATHOGNOMONIC SIGN OF EXOPHTHALMIC GOITRE.—Dr. Ch. Abadie, in a communication to the Société de Médecine de Paris (*La France Médicale*, vol. ii., 1881, p. 137) on a case of exophthalmic goitre, gives some very interesting points in the pathology of this affection. A pathognomonic sign, according to Dr. Abadie, is spasm of the elevator of the upper eyebrow. When the patient looks downward, the levator palpebrarum remains immovable, and the superior portion of the sclerotic is exposed. M. Abadie believes the disease to spring originally from disease of the sympathetic nerve.

REMOVAL OF FRECKLES.—

R Hyd. bichlor., gr. vj;
Acid. muriat. dil., f3j;
Aquæ, f3iv;
Alcoholis,
Aquæ rosæ, aa f3ij;
Glycerinæ, f3j. M.

Apply at night, and wash off with soap in the morning.

APPLICATION IN GRANULAR PHARYNGITIS.—

R Iodini,
Acid. carbolic., aa gr. xv;
Potassii iodid., 3j;
Glycerinæ, f3iij. M.

MANOL.

SYCOSIS.—

R Creasoti, ℥xx ad xxx;
Zinci oxidi, 3jss;
Adipis benzoati, 3j. M.

BOUCHUT.

NUX VOMICA AND CHARCOAL IN THE TREATMENT OF THE TYMPANITES OF TYPHOID FEVER AND ENTERITIS.—Dr. Maurice Raynaud recommends the following:

(1) R Pulv. nucis vomicæ, gr. ivss;
Pulv. anisi, gr. ijss. M.

Divide in two powders, one to be taken morning and evening.

(2) R Pulv. carbonis ligni, q. s.

Two tablespoonfuls during the day.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, OCTOBER 22, 1881.

EDITORIAL.

THE MEDICAL SERVICES AND THE PROFESSION.

THERE is perhaps no professional custom more proper and commendable than that which puts the services of a physician at the command of his fellows when they or their families are sick. It is right,—because, sooner or later, a *quid pro quo* is given and received; for we all are mortal, and to each comes, sooner or later, suffering and the need of relief: it is most praiseworthy,—for it, above all other customs, draws the members of the profession into a common bond of brotherhood, tending always to mutual trust and affection. But even a custom so proper as this may be subject to abuse, and, in fact, it is abused. When a physician lives at a distance, and requires for his family the opinion of an eminent specialist, it may be a question whether he has a right to the opinion and services of such specialist for nothing. We ourselves incline to the belief that such services should be given without compensation, provided the physician who receives them comes to the specialist and saves his time as much as possible. If a physician be a man of independent wealth, even if he be a practitioner, we think he should always offer compensation, and, under some circumstances, might well insist upon its being accepted.

There is a class of doctors who often expect, but who have no proper claim to receive,—at least to our thinking,—gratuitous medical advice. A man inherits or marries a fortune and lives at his ease. What right has he to the time and talent of his poor toiling brother, simply because he himself some years before paid a small fee

to some professors and passed the necessary examination? Or, again, leaving his profession, the quondam medical man engages in business, and ceases to be an active physician. We insist that his claims also are forfeited. In either case how shall the *quid pro quo* be given? Is the rich man to furbish up the old out-rusted weapons of his warfare and to fight the battle of disease anew? or is the man of business to take upon himself duties to which he has long been unaccustomed? It is preposterous: the *quid pro quo* cannot be given, and when no return is possible the demand for free services is an imposition which no right-thinking man can make upon another, and which we think no man in active practice should submit to.

LEADING ARTICLES.

VACCINATION.

THERE is an ignoble as well as a noble disregard of our own danger. There is a disregard of danger for others which is criminal. This is only too well exhibited by the indifference of our municipal rulers to the daily increase of variola, and their unwillingness from a false economy to provide the means for thorough vaccination.

Whatever difference of opinion there may be as to the real protective power of vaccination, it is still our only safety, and the only practical means known of suppressing an epidemic. To be a perfect success it must be universal; but in lesser degree every additional vaccination in a community increases by that much its safety. To assist its operation there are two other procedures,—isolation and disinfection. Were any one of these three completely carried out, smallpox would cease. In the certainty that such completeness cannot be attained, the imperfect performance of all three forms our best protection.

Vaccination, if municipal economy forbids its extensive performance, can be used to best advantage in limited areas to render safe all who have been immediately exposed,—viz., all of the inmates of a house in which a case occurs, with the adjoining houses. Then isolation comes in, and should forbid not only the attendance of the children at school but of the older

members at their daily employment in stores, factories, and workshops. And, for the reason that people must live, and the prohibition of work would lead to concealment, provision for the food and fuel, etc., of the inmates of infected houses would be true economy. For the great waste is in epidemics; the great saving, in their prevention. Then at last, lest infected clothing and bedding should prove dangerous, authority should superintend disinfection, and, if needed, the destruction of such articles as are contaminated, and among the poorer classes compensation should be made for the articles destroyed. Now, at the very commencement of the work the difficulty of providing funds for vaccination meets us. Municipal economy is such a rare virtue that it should be treated with the most tender consideration and respect. But when we find a body of men like the Councils of our city almost unanimously opposed to the granting money for this purpose, are we to immediately consider them as in league with destruction and pestilence and steeled against the fear of personal risk, or must we look further and see in their hesitation and opposition a distrust, not of the value of vaccination, but rather of the way in which the money will be used? This part of the matter should be clear as noonday. Every cent intrusted to the Board of Health for this purpose should be rigidly accounted for. Let no man be able to say that the work has not been done. Let there be no talk of false lists of names without the evidence to refute it. And let vaccination, if it cannot be universal, be so done as to be most useful,—viz., where it is most needed.

There are several elements going to cause our present unprotected condition. The time-honored custom on the part of the family physician of vaccinating without additional charge the infants over whose births he has presided has really tended to lower its value in popular estimation. The outcry of the anti-vaccinationists of Europe has reached our shores; and, while formerly in this country the human crust was almost exclusively used, now the poorest and most ignorant vie with the more intelligent and cultivated in the demand to be "done with cow-pox;" so that a change has taken place, which was hailed by the profession with joy when they remembered the charges of impure virus and bad vaccination so often brought

against them whenever anything went wrong at the time or any eruption occurred in subsequent years. Certainly with bovine virus no such charges could be brought. But are we sure that it is all gain? In the matter of public vaccination this change has been disastrous. The poorly-paid vaccinator finds his little remuneration melting away in the cost of virus. Not only does he get less, but the extreme uncertainty of cow-pox doubles his work for each successful case, on which alone his pay is based: so that on the fairest calculation he receives for his work done and visits made not more than one-fourth what he formerly did, the cost of virus being deducted,—i.e., two insertions for each success, and the work doubled. Thus, when the funds are not forthcoming, while formerly with the use of the human crust the vaccinators would still go on, giving time and labor to the work, to do the same now entails double labor and the actual outlay of money in considerable amount, the return of which is uncertain. This of course strangles off the work.

As to the actual advantages of bovine virus, a word might be said here. To the writer it is by no means certain that we have not taken, in this matter, that easy transit from the frying-pan to the fire. Certainly, after a very considerable experience as a vaccinator for sixteen years, he can say that in the last two years he has had more trouble from bad arms, seen more children endangered, had more failures in primary vaccinations than he had in the many years previous, when he was using not bovine but humanized virus, and that there is a grave suspicion in his mind that a number of children have been far more seriously and permanently affected by the bovine virus than is at all desirable.

The outbreaks of syphilitic vaccination on record have occurred, for the most part, in Europe, and have been generally attributed to arm-vaccination, during which blood is liable to mingle with the lymph, a thing much more rare with us in the days when the human crust was employed; but the writer, in examining many points taken at random from any and all the sources that supply us, finds traces of blood, as is very natural, upon a large proportion. Now, are we so very sure that there are no bovine diseases capable of inoculation besides the cow-pox? No anthrax, no tubercle, no pleuro-pneumonia or

other deadly disorders? And then the uncertainty must be considered, making extra labor to the vaccinator, delaying protection when instantly needed in the presence of the disease, and in the revaccinated leading to a false security, the failure being attributed to insusceptibility from the previous vaccination still holding good.

The public are by no means unwilling to learn. Always interested in medical matters, what they want is some statement, from recognized authority, in the elementary facts about vaccination. They should be brought to know the value of vaccinations from virus once removed from the bovine, its reliability, longer retention of power, freedom from the risks, whatever they be, of humanized virus of long descent on the one hand, and of bovine virus on the other. With this, too, should go the statement that vaccination, while one of the lightest of diseases, has its own risks and its own small percentage of mortality,—it may be one in ten thousand, perhaps less; but this, contrasted with the forty to sixty per cent. of variola, is but a shadow of danger.

In the matter of the protective power of vaccination, too, something may be said. Smallpox, in the days before Jenner and before inoculation, was a scourge whose intensity can only be realized now by watching its effect upon wholly unprotected populations. It was a universal scourge: few, if any, escaped it when exposed. It swept off whole communities, as it does to-day in Indian villages, leaving a few scarred and disfigured survivors. Now, in considering the protection of vaccination we are usually called to contrast the percentage of deaths from varioloid with those from true variola,—three or four per cent. with forty to sixty per cent.; but the difference is really much greater. This contrast leaves out of sight the unnumbered thousands who are daily and hourly exposed to the dread disorder but do not take it because protected by vaccination. The mortality after vaccination, an unknown but very small percentage, plus the almost infinitesimal mortality from vaccination, form together a truly insignificant total, and no man who has been vaccinated in infancy has any right to oppose vaccination; for, in truth, it is very probable that only by the grace of vaccination does he live to oppose it.

E. W. W.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the College of Physicians, Philadelphia, September 28, 1881, Dr. Albert H. Smith, President, in the chair. Dr. W. R. D. Blackwood read a paper on "The Application of Statical Electricity to Practical Medicine," which received the customary vote of thanks.

Dr. Charles K. Mills said that he had listened to the paper with much interest. Although his personal experience with this form of electricity had not been very extensive, his attention had been recently directed to the subject quite strongly. He had also witnessed its use in the practice of others. From his own observation he would feel inclined to say not that it was an agent "with a wide field of usefulness," but rather one whose range is limited, although of great value in its own field.

With reference to some of the terms employed, he would like to know whether or not the static electricity received and felt by the patient is not always *induced*.

While in New York, attending the last meeting of the American Neurological Association, he had heard a paper by Dr. Morton upon static electricity, and he had learned some facts in regard to its recent employment by Dr. Morton, Dr. Beard, and others, and, so far as he could observe, some really useful results had been obtained.

In listening to the lecturer's remarks this evening, he had heard several cases reported. He inquired if the relative merits of galvanism and statical electricity had been studied in these cases, so as to establish a comparison between the different forms. Speaking from his own experience, he would be inclined to place galvanism in the front rank, and above all other forms of electricity, for the treatment of neuralgia. It should always be remembered that in hysteria and allied nervous disorders, and in cases of spermatorrhœa, apparent improvement may follow very different kinds of treatment; in fact, such cases do not afford very reliable therapeutic conclusions as to the benefits of any single form of treatment.

In connection with this subject of the use of statical electricity in medicine, Dr. Mills said he wished to make some remarks on *æsthesiogenic agents*. These are substances which, when applied to the surface of the body, have the power of modifying its conditions of sensibility, as they restore sensibility to anæsthetic regions, or, under certain circumstances, they may produce anæsthesia. In point of fact, they affect mobility, temperature, capillary circulation, etc., as well as sensibility, etc.; but the modifications of the

latter are the most striking, and those to which attention was first called. The phenomena of *metalloscopy* and *metallotherapy* are embraced in a discussion of æsthesiogenic agents. His attention was first directed to the subject about six years ago while reading a little book on static electricity by Arthius of Paris. Since that time Charcot and his followers have made the subject famous by experiments at La Salpêtrière.

Burq, Charcot, and others found that in cases of hysterical anæsthesia, and in other affections, patients showed a susceptibility to certain metals. When, by trial, the proper metal was found, the anæsthesia would temporarily disappear under its application. In case of hemi-anæsthesia, the disappearance of the anæsthesia on one side of the body would sometimes be followed by its appearance in a symmetrical region of the opposite side. It has even been established by Charcot that *consecutive oscillations* of sensibility may take place under metallic applications. Under the influence of a metallic application in a case of left hemi-anæsthesia, sensibility returns on the left, but the right side becomes insensible by *transfer*; in a few moments, however, anæsthesia returns to the left, allowing the right side to recover its sensibility; then the first changes take place again, and so the oscillations continue, sometimes for several hours. Vigoreux made the important discovery that the temporary return of sensibility could be rendered definitive by maintaining in contact with the skin a plate of metal which was neutral,—that is, which was incapable of producing metalloscopic phenomena. The plates were found to act on special sensibility in the same fashion as on general sensibility. Many of these facts are detailed in Richer's great work on Hystero-Epilepsy.

Since the early observations of Burq, it has been found that plates of metal are by no means the only æsthesiogenic agents. Subcutaneous injections of metallic salts, feeble galvanic and faradic currents, bar-magnets, electro-magnets, solenoids, vibrations of sonorous bodies, ice, cold water, hot water, mustard plasters, blisters, jaborandi, graphite, calcium fluoride, etc., have all been found to be such agents.

Of all the æsthesiogenic agents which have so far been investigated, however, *static electricity*, which we are discussing this evening, is, according to Dr. Romain Vigoreux, the most powerful and the most generally applicable. In hystero-epilepsy or grave hysteria, as is well known, disturbances of sensibility are among the most prominent manifestations. Vigoreux claims to have obtained great success with static electricity in the treatment of hysteria major, its beneficial action being probably due to its great efficacy as an æsthesiogenic agent. Dr. Mills could see how it might be very useful from this standpoint.

He believed, with the French writers on hysteria, that hysterical anæsthesia was probably of cerebral origin, the changes in the brain being temporary vaso-motor or molecular disturbances, and that static electricity and other æsthesiogenic agents made impressions on the surface of the body, which, being carried by sensory nerves to the nerve-centres, so modified the latter as to cause the disappearance of the hysterical phenomena.

Dr. Carl Seiler said that there were two points in the paper which might be slips of the pen, or might need correction, if he had not misunderstood the lecturer. It had been stated in the paper that the induced current is used in sending articulate speech as well as written matter, and that it was true that in the telephone, as now used in this country, the induced current was made use of in order to overcome the disturbances of other currents along the line; yet in the Morse telegraph instruments, both in the relay and sounder, the line-wire directly is used in order to develop the electro-magnetism in the soft iron cases of the helixes, by which the armature making the signs is agitated.

The lecturer had also stated that he used an electro-motor to run his electric machine, and that the battery used for running the motor could be used also for galvano-cautery purposes. This needed some explanation, inasmuch as it had been found that in order to develop the greatest amount of power in a motor the plates of the battery should be small and the number of cells connected for intensity should be large, while in a galvano-cautery battery the more surface of zinc is exposed to the action of the acid, that is, the larger the plates, the better, and that but few cells with the elements connected for quantity of current gave the most heat.

The lecturer, in closing the discussion, could not agree with Dr. Mills as to the field being a narrow one, but believed a wide sphere existed for the use of static electricity. Static discharges are of course induced, yet the induced current of Morton is a further induction, as described in the paper.

Dr. Blackwood could not admit any parallel between static electricity and metallotherapy. From his own experience and from careful observation of these experiments in the hands of others, he is thoroughly convinced that the effect produced by the application of metal plates of any kind, solenoid or magnets, is purely imaginary, the patient and the doctor in such exhibitions being equally culpable,—the one as a fool and the other as a fraud. The metallotherapy, hypnotic, and allied phases of humbuggery were beneath the notice of reputable physicians, and it was to these and similar quack-leanings that he adverted in his paper. Static electricity produced palpable physical effects, not controllable by the imagination of any one, and the utmost liberality

could not couple the action of any form of electricity with transparent charlatanism. He fully recognized the value of faradism, and particularly of galvanism, in daily practice, not only in neuralgia, but in many other diseases, and gave due credit to each in his paper. In two of the reported cases the failure of galvanism was noted before resorting to static electricity, and the tenor of the paper was to advocate the claim of static effects as worthy of a place *beside* those of dynamic electricity, in the consulting-room of the physician.

The remarks made by Dr. Seiler were inaccurate. The telegraph, in all its forms of registers, relays, sounders, repeaters, simple or multiplex, is worked not by direct galvanic currents, but by electro-magnets, and the costly, cumbersome, and troublesome galvanic cells are being rapidly displaced by dynamo-electric machines for main batteries. Local batteries also act by inducing magnetism in the office instruments, and the only telegraph which ever employed the galvanic current directly to stain prepared paper was simply a curiosity, which could not and never did do actual business. Telephones also are electro-magnets of varied forms, and their operation, with that of their alarms, is through induction. The improved transmitters depend on induction-coils for their superiority, and galvanic-faradic and magneto-faradic instruments, as stated in the paper, exert an enormous influence in the operation of every-day work in science, art, and the business world. It is simply a fact that the lecturer uses his motor battery for minor galvanic-caustic purposes, for which its scope is ample. His battery is connected in series for intensity, and by reversion of the commutator a quantity-current is obtained. The arrangement is of his own design, but a somewhat analogous method is used in other makes. Dr. Blackwood had made no slip of the pen, as suggested, but meant precisely what he said in his essay.

He had intended demonstrating the application of static electricity at this time, but continuous attendance for nearly three days past on a case of opium-poisoning, and consequent indisposition, was his apology for neglect to do so: at a future time he might ask the pleasure of showing this before the clinical section.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, SEPTEMBER 22, 1881.

The PRESIDENT, DR. S. W. GROSS, in the chair.

DR. F. P. HENRY presented a hen in which the mesentery was the seat of a morbid growth closely resembling myxoma in its gross appearance. The history of the

case was entirely *post mortem*. The morbid growth attracted attention at one of the markets, and the entire carcass of the animal, with the tumor *in situ*, was carried by a man who obtained possession of it to the Philadelphia Dispensary. One of the physicians connected with that institution referred him to Dr. Henry as one likely to be interested in the subject; and to this gentleman, whose name could not be ascertained, the Society is indirectly indebted for the opportunity of beholding what is, without doubt, an exceedingly curious and interesting specimen.

As the specimen was only obtained by Dr. Henry a few hours before its exhibition, he had no opportunity to give it a thorough microscopical examination. A partial examination, however, demonstrated that the stroma is composed of dense connective tissue, and that the fluid occupying the cellular interspaces is very poor in solid matters, a few oil-globules and blood-cells being the most conspicuous, and these probably came from the stroma.

The growth appears large enough to have produced some deformity of the animal during life; but on this point nothing could be ascertained. The liver is healthy, and the tumor is not ovarian. It corresponds precisely to the mesentery, the intestine occupying its convex borders. There is no intestinal obstruction. On first sight the appearance presented by the mass closely resembled that of an extreme emphysematous infiltration of loose connective tissue; but the sense of touch immediately corrected this idea. The growth is firm, non-crepitant, and elastic.

At Dr. Henry's request, the specimen was referred to the Committee on Morbid Growths.

Report of the Committee on Morbid Growths.—"A microscopic examination of the tumor of the mesentery of a hen, presented by Dr. F. P. Henry, showed that it presented the structure characteristic of myxoma.

"October 13, 1881."

Cancer of the liver. By Dr. J. H. MUSSER.

I am indebted to Dr. McElree for the specimen I present to-night. The patient was attended by him during her life, and at the autopsy I had the opportunity of studying her.

The patient was an Irish laboring woman, 58 years of age, of good habits. She suffered during the two years previous to her death. Attacks of dyspepsia, accompanied by acidity, flatulence, and irregular bowels, with uneasy sensations in the hepatic region, annoyed her during the first year of her illness. The following year the dyspeptic symptoms continued, and pain became a prominent symptom. The pain was of a dull character, irregular, however, as to severity,—at one time in the hepatic region, again in the shoulders, or in the loins. The general health began to fail. In July, 1880, she had an attack of thermic fever. Three or four weeks after-

wards she became jaundiced. The icterus came on gradually, and was accompanied with the usual dyspeptic symptoms and constipation.

In October, 1880, Dr. McElree saw her for the first time. I learn from him that she was much emaciated, with a dry, harsh, deeply jaundiced skin, and yellow conjunctivæ and mucous membranes. Her appetite was lost; dyspepsia continued, bowels constipated, clay-colored stools. The liver was enlarged, outline not detected on palpation; pain on deep pressure in region of gall-bladder. Heart and lungs normal.

I saw her with Dr. McElree, November 28, 1880. The jaundice had improved. Other symptoms as above noted. Pain was greatest in the lower part of back. The past ten days has had ascites. Two days ago œdema of feet began. Liver-dulness commenced anteriorly at fourth interspace; in axilla at fifth rib; lower border in both regions at margin of ribs. Left lobe seemed enlarged. Nothing noted on palpation. Spleen slightly enlarged. Urine contained bile-pigment and a trace of albumen.

We learned that a sister had died of cancer. By exclusion, cancer of the liver was diagnosed. She died of exhaustion in ten days.

Autopsy, eight hours after death.—Rigor mortis well marked. Body emaciated; skin of a dark-yellow color; œdema of feet; great distention of abdomen; tissues stained by bile.

The abdominal cavity contained about four quarts of serum. The organs were in their normal relations, and all healthy save the liver. Pushed up by the fluid in the cavity, that organ occupied the position indicated by percussion during life. Viewing it *in situ*, the gall-bladder was noted to be in front of the liver, between the right and left lobes, and two inches from the lower margin. On closer examination, it was found that the left lobe was two inches wider than it generally is; that the right lobe was irregular in shape. On the upper surface, near the longitudinal fissure, was a marked prominence, section of which showed it to be caused by the growth of a large cancerous mass, nearly the size of a base-ball, in the liver-tissue, to the left of the centre of the right lobe. There were two other cancerous masses. One was in the lower part of the left lobe, near the longitudinal fissure; the other was in a corresponding position in the right lobe, just over the normal position of the gall-bladder. Both masses had the appearance and character of scirrhus, being gray, dense, fibrous-looking structures, with an umbilicated depression on the surface. On section, they creaked under the knife; the mass was white, with yellow streaks running through; the centre was soft. The mass in the right lobe was not as distinctly circumscribed as the other, but encroached upon and extended along the left edge of the right lobe. By its contraction the curious

malposition of the gall-bladder was produced. It was twisted through the longitudinal fissure and thrown on the upper surface of the liver, resting partly on both lobes. The ducts were pervious to a fine probe; the bladder was partially distended with bile. The lobules were greenish-colored in the centre, surrounded by a yellowish-white ring. On microscopical examination, the masses were of the nature of scirrhus, with degeneration of the central portions. The liver was fatty.

Dr. MUSSER remarked that he thought the appearances presented by the tumor unusual, and accounted for them by its not occurring in the circumscribed but in the diffused form.

Dr. FORMAD thought that the unusual appearances might be due to the growth being primary and central, which is of rare occurrence, while if secondary, as is so common, the periphery of the organ is more apt to be attacked. By this difference of site it may be possible to distinguish *approximately* between primary and secondary carcinomata of the liver.

Dr. MUSSER differed from Dr. Formad, and pointed out that in his specimen some considerable portion of the periphery *was* involved by the morbid growth.

THURSDAY EVENING, OCTOBER 13, 1881.

Adeno-carcinoma of breast. Presented by Dr. J. M. BARTON.

Mrs. K., a pale and thin but active married lady, 40 years of age, who had never borne children, but who still menstruated quite regularly, had suffered for five months with a tumor of the right breast. It had not been preceded by any injury that she was aware of, nor was there any hereditary carcinomatous taint. The tumor was the seat of sticking pains, particularly at night, and its rate of growth had been quite regular. The opposite breast was much atrophied, and was less than one-half the size of the diseased one. The disease involved the entire gland; the skin was infiltrated and adherent, and the veins slightly enlarged. The growth was about four by five inches in its diameters and two inches in length, perfectly regular in its outlines, and moderately hard. The nipple was retracted; the mass was freely movable over the pectoral muscle, and there was no glandular involvement. On June 28 I removed the growth, together with some of the surrounding skin. The hemorrhage, though free, was much less than we would have expected from a sarcomatous growth of similar size. The large open ulcer healed rapidly without complications, and has been entirely closed for some weeks.

The microscopic section which I have here shows that the increase in size of the breast is mainly due to glandular elements. The ducts, acini, and fibrous stroma are in nearly normal proportions to each other. Many of

the ducts have an increased number of, and some are distended with, epithelial cells. Occasionally typical alveoli filled with epithelial cells are found. They are much more numerous in the skin than elsewhere, and the disease might here be regarded as fully-developed scirrhus carcinoma.

REVIEWS AND BOOK NOTICES.

A HAND-BOOK OF VERTEBRATE DISSECTION. By Prof. H. NEWELL MARTIN, M.D., and W. A. MOALE, M.D. Part I.—How to Dissect a Chelonian.

This little book of 90 pages is the first of a series which is intended to furnish aid to the teacher of biology by enabling him to put in the hands of his students practical dissecting guides intended to be used between lectures, but not to take the place of personal teaching. There is no "namby-pamby" "popular" science in the brochure: its pages are occupied with strictly technical though simply written directions; and the man who has, with the turtle on the table, worked through the manual conscientiously, must be of very feeble mental organization if he has not acquired a thorough fundamental knowledge of the anatomy of the animals of the class, and widened thereby his own general anatomical horizon. It would argue very well for the future science of the country if this hand-book and its successors should be widely used in the United States. The publication certainly is another impulse imparted by the Johns Hopkins University to the study of biological sciences in America.

MANUAL FOR THE PHYSIOLOGICAL LABORATORY. By VINCENT HARRIS, M.D., and D'ARCY POWER, B.A. Oxon. New York, Wm. Wood & Co., 1881 (English print). 12mo, pp. 124.

This little book is a useful aid to work in the physiological laboratory. Its main strength lies in the directions given for conducting microscopic examinations of tissues. Fifteen pages only are assigned to physiological chemistry. A promise is held out to the reader that an account of the chief physiological instruments employed in the laboratory, with the methods employed in using them, will follow the instructions given in the volume; but, until these appear, the nature of the manual is scarcely in consonance with its title. So far as they go, nothing but praise can be awarded the instructions. They appear to be the result of painstaking care and much experience.

H. A.

THE WILDERNESS CURE. By MARC COOK. New York, Wm. Wood & Co., 1881.

A very readable little book, chiefly from the pen of its author (one-third of it being from that of Prof. Loomis),—giving much information about the proper fitting-up of an invalid's

camp, but scarcely a tithe of the information about the Adirondack region that is to be found in a recent leader in this paper. After much experience in almost every part of the Adirondacks, we are filled with wonderment at the figures given by Mr. Cook as to the cost. We have always found it well to make expense no object before indulging in the much-valued joy of the wilderness. To find a good Adirondack guide who will work for a dollar a day is a good fortune seldom given to ordinary mortals. We think seventy-five dollars a month, plus the expenses of getting out and in, the minimum which an invalid ought to expect to spend for a whole season; and if he is to have the luxuries spoken of in the book before us, one hundred dollars a month will be little enough.

THE APPLIED ANATOMY OF THE NERVOUS SYSTEM. By AMBROSE L. RANNEY, M.D. New York, D. Appleton & Co., 1881.

This book differs from any one that we are acquainted with, in that under the name of applied anatomy it really offers a series of lectures upon the normal and morbid physiology of the nervous system, giving just so much of the anatomy as is required for a row of pegs upon which to hang the rest of the book. As a method of teaching medical students, perhaps the plan is a good one; but as a plan of writing for the profession, probably the method is a bad one. The difficulty is that there is not enough of anatomy for the man who wants anatomy, not enough physiology for the man whose object is physiology, and altogether too little disease-discussion for the clinician. The old proverb of falling between two stools comes into remembrance. It may be, however, that in all this we are mistaken; and we think Dr. Ranney has done his work well and given accurate information in a simple, readable style. The illustrations are both abundant and good.

SUR L'EMPLOI DE LA MÉTHODE GALVANO-CAUSTIQUE DANS LE NEZ ET LE PHARYNX. Par VICTOR LANGE. (On the Use of the Galvano-Cautic Method in the Nose and the Pharynx. By Victor Lange.) Copenhagen, 1881. 4to, pp. 14.

This brochure is a reprint of an article read before the Laryngological sub-section of the London International Medical Congress. It is interesting as an expression of opinion concerning the value of the galvano-cautery in the treatment of some forms of nasal and pharyngeal disease. The diseases for which, in the judgment of M. Lange, the method named is especially serviceable, are chronic tumefaction and polypoid degeneration of the nasal mucous membrane, and follicular pharyngitis associated with tumefaction. Upon these points there are probably slight differences of opinion among laryngologists. The author might have extended the list without violence to truth.

H. A.

HARROGATE WATERS. Data, Chemical and Therapeutical. With Notes on the Climate of Harrogate. By GEO. OLLIVER, M.D. Lond. London, H. R. Lewis, 1881. Philadelphia, Presley Blakiston, 1012 Walnut Street.

The title of this book expresses so clearly what the scope of the work is that it is not necessary to say aught about it. The invalid desiring to visit Harrogate may find in the brochure a complete and reliable guide to the place, whilst the medical man desirous of knowing the physical and chemical character of the various waters, and their reputed effects upon disease, will find in the elaborate tables and discussions all he needs.

LANDMARKS, MEDICAL AND SURGICAL. By LUTHER HOLDEN, F.R.C.S. Assisted by JAMES SLEUTER, F.R.C.I. First American from the Third English Edition. By W. W. KEEN, M.D. Philadelphia, H. C. Lea's Son & Co.

The old editions of Mr. Holden's Landmarks were very well known and well esteemed books. This last appearance of the work is, we think, no less worthy of respect. For a book of 150 small pages it has had many godfathers, but we can say that the additions made by Dr. Keen seem to us judicious.

GLEANINGS FROM EXCHANGES.

IMPORTANCE OF THE EARLY RECOGNITION OF EPILEPSY.—In a paper on this subject (*New York Medical Record*, August 13, 1881) Dr. E. C. Seguin says, after discussing the distinction between eclampsia and epilepsy,—

We may sum up the statements of high authorities by saying that eclamptic and epileptic attacks are similar in character and practically indistinguishable.

This being admitted as being true of the symptoms, we yet have the two affections, eclampsia and epilepsy, to differentiate; and it is this differentiation or differential diagnosis which is all-important for the welfare of our patient. It is not so very serious to consider eclampsia as epilepsy for a few months; but the converse mistake—the mistake which I believe is common—is in one sense fatal to the patient. The non-recognition of epilepsy allows of recurrence of paroxysms and the establishment of the epileptic habit.

Upon what grounds can a reasonably accurate diagnosis be made? I believe this can generally be done by attention to the physiological law of convulsibility, and to the relatively small importance of local irritations, internal and external, after the third year of life, as a cause of eclampsia. A third rule which must be borne in mind is that at almost any period of life uræmia may cause eclampsia. This is more especially true of

young subjects who have just passed through scarlatina with nephritis, or who have had symptoms of renal disease from any cause; and also of adults,—males between thirty-five and fifty, who are liable to contraction of the kidneys.

A fourth diagnostic rule is that, in adults particularly, syphilis may cause eclampsia (*i.e.*, acute, curable epilepsy).

Plumbism and alcoholism sometimes cause eclampsia, but probably in most cases by producing renal changes and uræmia.

To apply these principles to practice, let us suppose cases of first convulsions with loss of consciousness, occurring in subjects of various ages.

1. Convulsive attacks in young children under three years.

If we can exclude injury to the head, gross organic disease of the brain, and microcephaly from premature closure of the fontanelles, the attack is probably eclamptic. This probability is increased to almost a certainty if we can accurately determine the existence of sufficient systemic or local causes for the attack.

Upon this question of sufficiency of the cause, much might be said. Often the physician is satisfied with merely determining the coincidence of a fit with a local irritation or a supposed local irritation. Soltmann is especially emphatic in his advice to judge these coexistent conditions carefully before pronouncing them to be causes and the attacks to be merely eclamptic.

The occurrence of a single fit enhances the probability of its being the first seizure of epilepsy.

The occurrence of repeated attacks in the course of an hour or two makes it probable that the convulsions are caused by fever, by gingival, gastric, or intestinal irritation, or perhaps by some peripheral cause.

2. Convulsions in young persons from three to fifteen years of age.

These are quite certainly epileptic, if we can exclude renal disease. The occurrence of attacks of an eclamptic nature (*i.e.*, ephemeral and curable) in such subjects from intestinal or gastric or sexual irritation is exceedingly rare, and the mistake—the terrible mistake—of assuming such to be the pathology of convulsions is frequently made, even by experienced physicians.

I would repeat, and the foregoing cases bear me out, that convulsions from worms, from indigestion, from lithæmia or oxaluria, in youth are exceedingly rare, and that in the treatment of such a case the patient should be given the benefit of the doubt and be put upon a rigid anti-epileptic treatment by means of bromides, while the treatment for the supposed local or diathetic cause is being carried out.

3. Convulsions in adolescents and adults. These are to be judged by the same general

rules as No. 2, with the addition that two morbid conditions should be carefully searched for, especially when the first convulsion occurs after twenty :

a. Syphilis. This may be acquired at almost any age, but especially after sixteen or eighteen years. Nothing in the social standing of the patient should deter the physician from inquiring delicately, yet deeply, into this question.

b. Chronic interstitial nephritis, more particularly in subjects of forty years and upward. The presence of a hard pulse, of over-action and hypertrophy of the heart, the passage of an excessive amount of urine of low specific gravity, sometimes containing albumen (never much), and a few hyaline or granular casts, go to justify the diagnosis of contracted kidneys, consequent chronic uræmia, and the occurrence of eclamptic attacks.

If we exclude these two pathological conditions, a convulsion in an adult, especially if a single fit, is quite certainly epileptic, and will be followed by others, after a lapse of time which may vary from a few days to more than a year. Of course the existence of a long interval of health after one epileptic attack in no wise justifies a physician in pronouncing the disease not to be epilepsy, as is shown by some of the cases I have read, and by numerous others which I might cite.

To sum up the early diagnosis of convulsions :

1. After the third year such attacks are very probably epileptic. The possibility of uræmia and of syphilis should be borne in mind, and a careful investigation be made as to their existence.

2. Under the third year the attack may be eclamptic,—probably is; but its causes should be carefully judged.

3. In many cases under three years it is well to give a moderate amount of bromide of potassium (or sodium) with regularity for several months after a convulsion,—that is to say, in such cases as do not present an evident, indisputable pathological condition sufficient to cause eclampsia.

4. In all cases above three years the bromide treatment should be at once instituted and kept up for many months.

This will not interfere with the treatment by appropriate remedies and by hygiene of gastric or intestinal indigestion of worms, of sexual irritation, of uræmia, and of syphilis.

Besides bromides, a variety of treatment is demanded by different forms of epilepsy, according to the pathological condition; but the consideration of these indications is foreign to this paper, whose main object is to encourage the prompt and proper treatment of epilepsy at the earliest possible moment, viz., in most cases after the first attack.

I am confident that, if this were done, the prognosis of convulsive epilepsy would be greatly changed for the better.

THE DIAGNOSIS OF SLIGHT EPILEPTIC SEIZURES.—Dr. E. C. Seguin (*New York Medical Record*, August 13, 1881) says, in considering the diagnosis of *petit mal*, consisting of epileptic vertigo (so called), and of imperfect or aborted spasmodic seizures,—

In this category I do not include the localized or hemiplegic epileptic spasms, which I have treated of in a former paper.

Petit mal, or epileptic vertigo, is often allowed to pass for vertigo caused by indigestion. In my experience, physicians are very loath to call these slight attacks by the terrible name of epilepsy, and so delude themselves and their patients until the recurrence of a convulsive attack settles the question.

Besides, I find that, even when the attacks are recognized as epileptic, a most unfortunate statement is made that these are slight and manageable attacks, whereas the truth is that *petit mal* is much more intractable than grand mal, and often leads to more evident mental deterioration.

The correct diagnosis of *petit mal* is feasible, provided a good description of the seizures be had.

From vertigo it is distinguished by :

1. The subjective phenomena. In vertigo there occurs a sensation as if the patient himself, or objects about him, were whirling around; in *petit mal* there is no such feeling, but a sensation of confusion, or of something rising from the throat or epigastrium to the head. In some cases there are no sensations in the head beyond the consciousness that something is wrong for a moment.

The sensations of *petit mal* are, moreover, usually sudden, or even flash-like, whereas in vertigo, cardiac syncope, and some hysterical attacks, there elapses quite a time in which the attack is growing. This suddenness of onset is very characteristic of minor epilepsy.

2. By objective phenomena. In faints and in some hysterical states the patient is limp from the start, and in other hysterical attacks there is spasm lasting many minutes. In *petit mal* there is nearly always spasm, but not as in grand mal. It usually expresses itself by a momentary rigidity of the whole body, with staring eyes and wide pupils. To express it otherwise, there is for an instant an unnatural immobility; the patient is, as it were, petrified for a few seconds. The friends of patients will usually accept the suggestion that the patient is statue-like in the attack.

It is to be borne in mind that in some cases the patient keeps his equilibrium, or even continues to walk. Nearly always, however, the action which the patient was doing at the moment (eating, talking, walking) is impeded or interrupted, to be resumed naturally after a few moments.

Some of these attacks of *petit mal* are literally like a flash,—just a moment's obscuration of consciousness. The consciousness is wholly lost in the various forms of *petit mal*,

though many patients will claim the contrary. The truth is usually easy to learn from the patient, or friends of the patient, and is at once evident if you happen to witness a paroxysm. I am in the habit of not relying upon an epileptic's statement that he is conscious during an attack, without sufficient corroborative testimony.

The dilatation of the pupils and their immobility, and the open state of the eyes, are capital symptoms.

In syncope and hysteria the eyes are closed and the muscles limber. The eyes in hysterical "faints" present an almost pathognomonic appearance; they are rather tightly closed, and present vibrations or quivering motions due to the prolonged effort at closure. In neither of these conditions is the pupil fixed and widely dilated, as in epilepsy: this is a symptom which cannot be imitated.

Vertigo from gastric disorder is characterized by a sense of whirling in the head, and often a sensation as if the ground were opening in front of the patient, or falling away from before him, with impending precipitation. The observer notices no dilatation of the pupils, or staring, or momentary stiffness of body; the patient can speak at any time. In severe cases the vertigo is very frequent and is produced by the least motion.

I cannot enter fully into a description, for diagnostic purposes, of each and every variety of petit mal. This would take a long time.

Allow me to refer to the intermediate attacks, in which there is some jerking of one of the limbs, or in which the patient says or does something odd. In some cases the patient will rise suddenly from a chair, walk rapidly about, muttering something. In other cases the patient will lie back in his chair with the epileptic facies, and jerk both arms or the limbs on one side of the body for a few moments. In other cases the patient, being out of doors walking in the street, loses himself for a few blocks, and is surprised at his change of location. In other cases there may be incoherent or semi-coherent talking. Other patients simply stare and make swallowing movements, with or without drooling. Other patients fumble and fuss about with their hands, while staring and unconscious.

The unconsciousness and the attendant pupillary phenomena are the chief diagnostic symptoms in these cases; but a very important element in the differential diagnosis between these attacks and hysterical ones is that the latter present variations each time, whereas the mixed epileptic seizure is almost a stereotyped performance, one or two sets of movements being done by the unconscious subject.

Still other cases of non-spasmodic epilepsy occur in the shape of periodic or paroxysmal attacks of mania or melancholia. In some of these cases the careful observer finds that

a nocturnal fit or an unobserved diurnal paroxysm ushers in the psychosis; but in other cases the mental disorder appears in a periodic epileptoid manner, and convulsions or petit mal make their appearance later on.

I have already given it as my opinion, or rather as the summary of my experience, that petit mal is often ignored for years, and is usually looked upon as a trivial affection.

It is my present purpose to urge the early recognition and careful treatment of this seemingly insignificant symptom. It appears to parents, and too often to physicians, as infinitely less serious than grand mal or "fits;" yet I can assure you that the contrary is true.

Petit mal, especially the flash-like form, is exceedingly rebellious to treatment. I have now several little patients who continue to have several "turns" a day, despite the use of as much bromide, etc., as their systems will bear. I have repeatedly had to produce severe bromism in order to barely control these minor forms of epilepsy, and any reduction of the medicine to a safer dose was followed by a return of symptoms. In taking charge of a patient who has such petit mal I always explain to the parents or relatives the difficulty of the task they have brought to me. In my experience, spasmodic attacks—even the most severe fits—can nearly always be controlled by a proper dosing of the bromides,—they may also be suspended for months and years; but we have little control of the minor manifestations of the disease.

Still, in all forms of epilepsy the date of its recognition as epilepsy is an all-important factor in prognosis. By repeated seizures a condition of the nervous system (epileptic centre?) becomes established, which we designate as the epileptic habit, a condition which explains the remarkable fact that in some cases of symptomatic or reflex epilepsy the attacks continue after removal by surgical means of the morbid focus whence the attacks seem to be produced.

By instituting treatment very early, if possible after the first or second attack, we eliminate this factor, and the chances of cure are greatly increased.

EFFECTS OF DRUGS IN LACTATION.—Dr. Dolan, continuing (*Practitioner*, September, 1881) his series of articles on this subject, from which we have already quoted, gives a case where fifteen grains of *chloral* were given to a patient every few hours before confinement, until seventy-five grains had been taken. No trace of chloral was found in the milk on the third day; but Dr. Dolan thinks chloral does have an effect on the milk.

Calabar bean has been suggested as a means of restoring the suppressed secretion of milk. Dr. Dolan tried this remedy, but without effect on the flow of the milk.

Cod-liver oil was given to two nursing women in the dose of one tablespoonful three times a day in a cup of warm milk. The

children nursed as usual, and no physiological effect was produced on them. Linseed tea, beef fat, and mutton fat were administered to women with the view of ascertaining what, if any, effect would be produced upon the amount of breast-milk secreted. In two cases no effect was produced.

Castor oil was given to mothers in a number of cases. It always produced a purgative action on the child.

Of *cummin*, as of the other aromatics, Dr. Dolan says, "I believe that I may formulate the law that they all impart a flavor and odor to human milk, without increasing the quantity or improving the quality of the secretion."

Of *conium* he remarks, "Most of the Umbelliferae are readily absorbed by the lacteal vessels, and may be easily found in the milk. Conium, from its sedative action and its influence on the nerves of motion, could not be expected to increase the milk-supply. There are reasons, however, for its administration to mothers who are nursing, so that it is important to note how soon, if at all, it appears in the milk, and what dose produces an effect. Conium, praised by Störck for the cure of uterine scirrhus, and by Dr. Tunstall for chronic inflammation of the womb, is an excellent sedative for back-ache and for the sexual organs. It must be given until its physiological effects are produced, and this means a dose of the succus conii B. P. of two or three drachms."

He administered two-drachm doses of the succus conii every three hours to a patient until she had taken twelve drachms. Analysis of the milk then showed the absence of conium.

Digitalis infusion, in half-ounce doses every six hours, was given in three cases without any trace of the medicine being found in the milk.

Regarding *ergot*, Dr. Dolan says his results are negative or uncertain. Two grains every two hours were given to a nursing mother until twelve grains had been administered. The mother thought the child was affected, as it was cross and irritable. No ergot could be found in the milk, although it must be admitted that our present methods of analysis are unsatisfactory.

Of *iodide of potassium* Dr. Dolan says that in his experience it does not decrease the quantity of milk, although its prolonged use may deteriorate the milk by impoverishing the blood. He found iodine in the milk of a patient who had taken fifteen grains of iodide of potassium every three hours until sixty grains had been taken. A child eighteen months old, who had been given the milk from a woman taking iodide of potassium, showed iodine in the urine.

Of *mercury* Dr. Dolan's experience is inconclusive. In the two cases examined, no trace of mercury was found in the milk.

Opium, when given to the nursing mother in large doses, can be found in the milk. After small doses it cannot be detected.

Phosphorus was given to two nursing women in doses of one-thirtieth of a grain for fourteen days without any trace of the drug being found in milk or urine. The *potash salts* and *quinine* do not, in Dr. Dolan's experience, pass into the milk. *Rhubarb* and *senna*, however, do, and produce their physiological effect on the nursing child. *Sulphur* and *turpentine*, administered internally, affected the milk, the former acting as a mild purgative on the nursing infant. *Valerian*, *dill*, and *copaiba* are also excreted by the milk.

THE HIGH OPERATION FOR STONE.—In the reports of the Société Anatomique, M. Guyon presents an interesting case of the high operation for stone. The patient, 61 years of age, had suffered from urinary troubles. The almost constant pain in the vicinity of the bladder and genitalia was greatly augmented by walking or riding. During two years before the operation a continuous desire to urinate harassed the patient. The examination of the bladder with the catheter was difficult, since it bore but little manipulation, and the procedure was followed by urethral hemorrhage. Nevertheless, the presence of a large calculus was ascertained and confirmed by the rectal touch. A second examination revealed the stone to be of such size as to preclude the possibility of its removal by the ordinary lateral operation: thereupon it was determined to resort to the high operation. A large silver catheter, grooved on its concave surface, was introduced into the bladder and about two ounces of fluid injected. The incision in the median line commenced at the superior margin of the pubes and was continued about four inches upward. Layer after layer was divided while an assistant retained with his finger the peritoneal fold and intestine in position in the upper angle of the wound. Since the calculus completely filled its cavity, the wall of the bladder could not be pressed into the incision according to the usual method by pressure on the catheter. Hence the bladder was incised directly over the stone, and the latter removed with forceps. Deep and superficial sutures were then passed, a space of little over an inch being left below for the passage of a rubber catheter. The dimensions of the stone are as follows: length, nine cm. (three and one-half inches), width, seven cm., and thickness, five cm. From the time of the operation gradually increasing fever supervened, and the patient died on the sixth day after the operation.—*Progrès Médical*, April 16, 1881.

Nicoladoni likewise reports two high operations for stone, in which all the antiseptic precautions were taken.

The first patient was a girl, 5 years of age, in whom a stone of urates and phosphates completely filled the bladder and projected

into the urethra and a diverticulum of the bladder. The stone was removed by the high operation, the incision being an inch and one-half in length. Owing to the bruising of the vesical wall and the margin of the incision into the bladder, a suture was not made. A flexible catheter was introduced into the bladder and allowed to protrude from the urethra and abdominal wound. To the latter the antiseptic dressing was applied. Although the patient did well during eight days, death resulted from uræmia on the tenth day after the operation.

In the second case, of a boy aged 5½ years, the stone, which consisted of urates, could easily be removed through an incision a little over an inch in length without bruising the margins of the wound. In this case five sutures with carbolized silk were introduced to close the vesical wound, and the abdominal incision was then closed. The union was perfect, urine at no time escaping through the abdominal wound.—*Wien. Med. Presse*, 14, 15; *Cincinnati Lancet and Clinic*.

CLINICAL UROLOGY.—M. Robin reported to the Society of Biology in Paris two cases in which the patients suffered from diseases whose differential diagnosis, though very difficult by the ordinary means, was yet rendered easy by an examination of the urine. The first case was that of a boy aged 15, who presented obscure typhoid symptoms; the second was a patient of the same age, with almost identical symptoms, except that in the latter case there was slight hyperæsthesia and a slow pulse. In the second case there was reason to suppose that the patient might be suffering from tubercular meningitis. Examination of the urine resulted in the following observations. In the first case it was turbid, with a specific gravity of 1.013, and a slight excess of urea and uric acid was present. Nitric acid poured down the side of the test-tube containing the urine caused a number of superimposed zones to form in the following order: a stratum of uric acid, a transparent zone; a stratum of albumen, and underneath a blue ring due to the presence of indican. In the case of the second patient the urine had a reddish tinge, was clear, with a sp. gr. of 1.032, and contained a very considerable quantity of urea; neither albumen nor indican was detected on the addition of nitric acid, but urohæmatin was shown to be present. From this difference in the urine M. Robin diagnosed typhoid fever in the one case and tubercular meningitis in the other, and post-mortem examination verified in each case the diagnosis. M. Robin states that this difference in the urine exists in all the cases which he has hitherto examined. In typhoid fever indican and albumen are always present, but only very rarely urohæmatin. The latter substance, however, is sometimes present at the beginning of continued fever under certain conditions, such as pulmonary com-

plications, hemorrhage, facial erysipelas, or when the disease attacks a very robust individual and assumes an inflammatory type. M. Robin concluded his remarks by stating that the presence of indican in urine affords a very valuable diagnostic sign of typhoid fever; for although we cannot say that the patient is free from the fever because the coloration is absent, yet when it is seen in the urine he must be said to be suffering from typhoid.—*Le Progrès Médical; Practitioner*, 1881, p. 213.

LUPUS OF THE LARYNX AND PHARYNX.—In an article on this affection (*Archives of Laryngology*, 1881, p. 250) Dr. Morris J. Asch concludes as follows:

"1. Lupus of the mucous membrane may and does exist independent of any cutaneous sign of the disease.

"2. In cases where the disease exists only in the throat, it shows itself first usually in the velum, while its extension to the larynx is rare.

"3. While its diagnosis is difficult, yet careful study of the case in all its bearings will enable us to distinguish it from syphilis.

"4. Treatment affords some reasonable hope of cure, and its prognosis is not altogether hopeless."

ALOPECIA OF THE EYEBROW.—In certain cases syphilitic alopecia destroys the beard, the eyebrow, and all hair-covered portions of the body. Alopecia of the eyebrow is a symptom which should at once put the physician upon the trail of diagnosing syphilis. It acts precisely as it does upon the head,—that is, sometimes it renders the eyebrow thin, sometimes removes the hair completely to a greater or less extent. When the eyebrow is discovered broken by a bald line, this single symptom is almost pathognomonic of syphilis. For the baldness which often attacks the brow proceeds differently and denudes entirely the superciliary region.—*Journal de Méd. et Chirurg.*

A CURE FOR SINGULTUS.—*Le Scalpel* (December 5, 1880) gives a very easy cure for a continued singultus, sometimes complicated with spasm of the glottis, introduced by Rostau and highly recommended by Deghillaye of Mons. It consists in placing the hand flat upon the epigastrium, immediately below the ensiform cartilage, and making firm pressure. Should this prove unsuccessful, place a firm roll of muslin on the same place, securing it by a napkin bound firmly around. In an hour this may be removed, and it will be found that the hiccup has entirely disappeared.—*Cincinnati Lancet and Clinic*.

PURGATIVES BY HYPODERMIC INJECTION.—It has been found (*Paris Medical*) that hypodermic injections of aloin (the alkaloid of Socotrine aloes) will cause purgation when used in doses of one-twenty-fifth of a grain. We can thus, by combining apomorphia and aloin, produce an action each way without having to introduce anything into the stomach.

MISCELLANY.

REACTION FOR DISTINGUISHING THE PTOMAINES FROM THE VEGETABLE ALKALOIDS (P. Brouardel and E. Boutmy).—If a substance isolated by the method of Stas behaves with potassium iodo-mercurate as do the vegetable alkaloids, and if it has no action on potassium ferricyanide, a vegetable alkaloid is present. If the ferricyanide is reduced to ferrocyanide, whilst the base is also precipitated by an iodo-mercurate, it is a ptomaine. In applying the test, the base extracted from the body under examination is converted into a sulphate, and a few drops of the solution of this salt are placed in a watch-glass which already contains a little ferricyanide dissolved. A drop of neutral ferric chloride added to the mixture gives a precipitate of Prussian blue if the base isolated is a ptomaine. *Ptomaine* is a generic term employed to designate the peculiar poisonous alkaloids discovered by F. Selmi in human bodies after death. Armand Gautier, in commenting upon the reaction described above, states that while indeed no naturally occurring alkaloids have been found to give the above reaction of ptomaines, yet there are many artificial compounds which react in the same manner. Among them are phenylic bases, as aniline, methyl aniline, paratoluidine, diphenylamine; pyridine bases and bodies like diallylenediamine and acetaminine. Nevertheless the reaction is important as affording an additional criterion in doubtful cases.—*Répert. de Pharm.*, 1881, 276, 278; *New Remedies*.

HARD ON THE SPECIALISTS.—At a recent meeting of the Canada Medical Association the following resolutions were introduced:

"Whereas, The system of specialism and specialists, which at present obtains to a certain extent in the Dominion, and which has developed to a very large proportion in the neighboring republic, is for the most part the outgrowth of superficial professional education and want of success as practitioners of medicine and surgery,

"Therefore, Resolved, That it is the opinion of this Society that specialism should be discountenanced by the members of this Society, and that specialists should be treated and looked upon as irregular practitioners, except in rare cases, where long experience, extended study, and peculiar aptitude have placed a medical man in a special position towards his brethren;

"Be it therefore Resolved, That the members of this Society pledge themselves to do all in their power to check the growth of this species of evil."

In supporting his resolution, Dr. Slayter said the evil complained of was ruining the profession in America, and must be stopped if they ever expected to come up to the European standard.

WELL RID OF IT.—A recent writer on scorbutus says that this disease is gradually dying out in all civilized countries. Russia is now its chief seat, and in particular St. Petersburg.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM OCTOBER 1 TO OCTOBER 15, 1881.

MURRAY, ROBERT, COLONEL AND SURGEON, MEDICAL DIRECTOR MILITARY DIVISION OF THE MISSOURI.—Granted leave of absence for two months. S. O. 100, Military Division of the Missouri, October 5, 1881.

MAGRUDER, D. L., MAJOR AND SURGEON, MEDICAL DIRECTOR DEPARTMENT OF THE MISSOURI.—Granted leave of absence for one month. S. O. 207, Department of the Missouri, October 11, 1881.

BYRNE, C. C., MAJOR AND SURGEON.—Relieved from duty at Wilcox, A.T., to proceed to Camp Thomas, A.T., and report to the Commanding Officer for duty in the field. Field Orders No. 4, Headquarters Department of Arizona in the Field, September 9, 1881.

WOODHULL, A. A., MAJOR AND SURGEON.—Granted leave of absence for four months. S. O. 227, A. G. O., October 7, 1881.

JAQUETT, G. P., MAJOR AND SURGEON.—Granted leave of absence for one month. S. O. 231, A. G. O., October 12, 1881.

CLEARY, P. J. A., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months on surgeon's certificate of disability, with permission to apply for six months' extension if necessary. S. O. 224, A. G. O., October 4, 1881.

KOERNER, E. A., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Plattsburg Barracks, N.Y., as Post-Surgeon. S. O. 180, Department of the East, October 7, 1881.

CORSON, J. K., CAPTAIN AND ASSISTANT-SURGEON.—Confirms telegraphic instructions of this date, directing him to report to the Commanding Officer Battalion Fourth Artillery at Fort Yuma, California. S. O. 114, Department of Arizona, October 5, 1881.

KING, WM. H., CAPTAIN AND ASSISTANT-SURGEON.—To proceed without delay to Fort Trumbull, Conn., and report to the Commanding Officer for temporary duty. S. O. 176, Department of the East, October 3, 1881.

O'REILLY, R. M., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months from December 1, 1881, on surgeon's certificate of disability. S. O. 225, A. G. O., October 5, 1881.

HARVEY, P. F., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for twenty-five days, to take effect on adjournment of the G. C. M., of which he is a member. S. O. 182, Department of Dakota, October 5, 1881.

COWDREY, S. G., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 228, A. G. O., October 8, 1881.

MAUS, L. M., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 222, c. 2, A. G. O.

APPEL, D. M., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Fort Supply, I.T., and assigned to duty at Fort Elliott, Texas. S. O. 201, Department of the Missouri, October 4, 1881.

ROBINSON, S. Q., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 228, A. G. O., October 8, 1881.

STRONG, N., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Shannon from duty at Fort Thornburgh, U.T., assigned to temporary duty with troops repairing road between Park City and Fort Thornburgh, U.T. S. O. 102, Department of the Platte, October 4, 1881.

PHILADELPHIA, NOVEMBER 5, 1881.

ORIGINAL LECTURES.

BASEDOW'S DISEASE.

Delivered in the Medico-Chirurgical College

BY HUGO ENGEL, A.M., M.D.,

Professor of the Principles and Practice of Medicine and of Clinical Medicine, etc.

GENTLEMEN,—I will have the rare opportunity to-day to show you, on three cases, the beginning, the full development, and a serious sequela of a disease which seems to be growing more frequent in our country,—viz., exophthalmic goitre, also called Graves's or Basedow's disease.

THE FIRST STAGE.

You see here a young girl, Clara F., 15 years of age. She was born in Philadelphia,—a fact I specially mention because there are certain localities—as, for instance, the Austrian province of Styria—where goitre is endemic and affects the majority of the population, while such in this city is not the case. Our patient, apparently the type of health, complains of beating of the heart, and informs us that for the last six weeks she has noticed at her throat a swelling which seems to be steadily growing. Looking at her face, with its florid complexion, it strikes one as if she had very large or rather prominent eyes, and you hear the patient say that she herself has noticed of late “the growing of her eyes.” She is not so far wrong in her remark, because, though her eyes have not really grown, the fat-pillow on which they rest has increased in thickness and pushed the eyeballs forward, thus producing—in this case, so far, in only a very mild degree,—one of the characteristic signs of her malady. You further observe, at the root of the neck, this tumor, which seems to consist of two lobes, of which the left is the larger. The swelling is soft to the touch, but somewhat elastic, and the skin covering it is not discolored. We have here plainly an enlargement of the thyroid gland, especially of its left lobe. The appearance of the goitre, or bronchocele, as this swelling technically is called, forms the second diagnostic sign of Graves's disease. Examining now the patient's heart, I find, on percussion, the area of dulness over the region of the organ to be normal, but on palpation an almost heaving im-

pulse; and on auscultation I hear the sounds of the heart, especially the first, much stronger and louder than they should be, and, besides, the action of the heart is decidedly irregular. This excitement is not confined to the heart alone, but affects the whole circulation, as you can judge from the pulsation of the carotids and the frequent, irregular pulse at the wrist. This condition of the heart and circulation is the third characteristic symptom of exophthalmic goitre; and you hear the patient telling me that she suffered frequently from the beating of the heart long before she noticed the swelling at her throat and the prominence of the eyeballs. The cause of this disease, gentlemen, is believed to be an affection of the vaso-motor nervous system, and the inferior cervical ganglion has been found in a morbid condition in persons who died while suffering from this complaint. We have, therefore, first the excited and irregular action of the heart and the pulsation of the carotids, then the enlargement of the thyroid gland, and, nearly synchronously with the latter, but more slowly developing, the prominence of the eyeballs,—they altogether forming the picture of the disease. In consequence of the disturbed circulation, the malady is frequently accompanied by still other symptoms, as headache, vertigo, and dysmenorrhœa or amenorrhœa, and often by symptoms of pressure, induced by the great size of the goitre; but all these we will better study on our next case.

THE FULL DEVELOPMENT.

Gentlemen, ere I bring the next patient, a lady, before you, I will tell you that she is at present *enceinte*, expecting to be delivered within about four months. As it would not do in her presence, I communicate this fact now to you, because you have to be aware of her condition, as it greatly influences her malady. [The patient was brought before the class by the chief of the clinic.] You observe, gentlemen, how greatly this lady is suffering from dyspnoea. We will let her sit down, as she feels more comfortable in that position; and, as she speaks and understands but very little English, I shall translate to you what she says. Her name is Mrs. Mary S—. She is 37 years old, and was born in Styria, that Austrian province where goitre is endemic. The patient is

married and has two children. She tells me that she has had a swelling at her throat, as far as she can remember, all her lifetime, but that she has suffered from palpitation only since her marriage, four years ago, at which time she also first noticed the prominence of her eyeballs, which, as you will observe, has gradually reached a very high degree. We judge from her history that she first suffered only from goitre, and that many years later Graves's disease developed itself. Her symptoms always increased greatly in severity when she was *enccinte*, and at her last confinement the physician bled her at the arm, as she was threatened with suffocation. You will note how dark and congested her face is, and how strongly the carotids are pulsating. Inspecting the swelling at her throat, you observe the congested appearance of the skin in front of the neck, the enlarged veins crossing the swelling, and the far greater size of the latter compared with that seen in the former case. By actual measurement across, I find the circumference of the tumor to be thirteen and a half inches, and, placing my finger on the swelling, I feel a peculiar pulsation and thrill,—signs which are characteristic of a fully-developed case. The tumor covers the larynx and expands about evenly on both sides. You see from the congested appearance of veins and skin that by its pressure the goitre interferes with the reflow of the venous blood from the head; and the great dyspnoea is in this case evidently due to pressure on the trachea and larynx, as the respiration is accompanied by the peculiar noise heard in such cases. The slight hoarseness of her voice I attribute to congestion of the vocal cords. Examining her lungs, we find them normal, except that fine and some larger, sonorous râles scattered all over the lungs indicate a slight congestion of the latter and some catarrh of the bronchial tubes; but her heart is hypertrophied, the impulse is heaving and can be felt over several inter-spaces, while the sounds are increased in intensity. The action of the heart is so turbulent and irregular that, if I could not judge it from the character of the sound, I would be unable to determine which is the first and which the second sound of the heart. There seems to be a murmur, not confined to any special valve, but heard evenly over the body of the heart, though more on the left side. I think the murmur is due to the excited

action of the organ, but at present I cannot decide, as the noise the patient makes while breathing interferes with my hearing, and she is not able to stop her respiration for even a few seconds. You see here Graves's disease in its aggravated form, in its fullest development; and I can well imagine that venesection may become necessary if this condition continues up to her delivery. Besides the severe palpitation, the great dyspnoea, and the swelling, the patient complains of continuous headache, of vertigo whenever she stoops down, and of nearly constant buzzing in her ears,—all symptoms due to the disturbed reflow of the venous blood from the head and the hypertrophy of the heart. [The patient was sent back into the waiting-room.]

Gentlemen, I wish you to impress the case I have just shown to you on your memory, because in this hypertrophy lies the greatest danger as regards final recovery. This hypertrophy—which, if not carefully guarded against, will gradually develop also in our first case from the over-action of the heart—should have been prevented, because it will finally end in dilatation if it cannot be removed by treatment. You must not always blame the physician attending the case for the existing hypertrophy, because most patients, if feeling only a little better, and especially after the disappearance of the prominence of the eyeballs and diminution in the size of the goitre, will stop the treatment of their own accord; and in this way the over-action slowly but surely produces the inevitable result, as seen in the last case,—thickening of the muscle, hypertrophy of the heart. It would have been far easier to prevent the latter than it is now to remedy it. Of the treatment we will speak after I have shown to you this, our last case for to-day.

THE SEQUELA OF THE CURED (?) DISEASE.

This lady, Miss Flora Mc—, tells us that her age is about 40. We will inquire first into the history of the case. The patient does not remember to have had any disease till her sixteenth year, when she emigrated from Ireland to the United States. Since then she has been living in Philadelphia. A year or so after her arrival here, she became very nervous, had severe beating of the heart, and a tumor made its appearance at the root of the neck. Later her eyes "commenced to

grow, till they were very prominent." This affection she had for many years. Occasionally it would nearly disappear while under a physician's treatment, but after a shorter or a longer interval the symptoms would again return. Whenever she was suffering especially severely from the malady, the monthly period would become irregular and painful, while there would be no dysmenorrhœa when the symptoms first mentioned were kept in abeyance. The patient believes that if she had possessed sufficient means and perseverance to continue the treatment of each physician she went to a sufficient length of time, she would have been cured long ago; but the disease always broke out again, till five years ago she came to New York, where she was cured by the aid of electricity. Since then she has been free of the disease, and you see, gentlemen, that her eyes are not prominent, her carotids do not pulsate, and the tumor has shrunk to the size of a walnut. It feels hard to the touch, and seems to have undergone calcareous degeneration. But, if she is cured of the malady, you will naturally ask, what else brought the patient here? We will let her continue the history of her case. She says that she felt totally well till about a little over a year ago, when she observed that she got short-breathed on the slightest exertion, that she often felt as if she was going to faint,—and did in reality faint of late a number of times,—and that her limbs were swollen. These symptoms appeared in the order named. She further admits that since her cure she never had been totally free from palpitation, but is positive that she did not suffer from it for the last two years. I had her urine examined; it contains a very small amount of albumen, but no tube-casts. The swelling extends to nearly the knee on both limbs, and you see here, just above the ankle, that the skin pits on pressure. Her eyelids also are somewhat puffy. Now, this œdema of the limbs may be due to one of four causes (excepting such rare cases as plugging of a main vein in both legs, etc.),—either to a very anæmic condition of the blood or to an organic affection of either the kidney, the liver, or the heart. The urine has shown us that the kidneys are not diseased, especially as the history as well as the absence of other symptoms gives no evidence of a contracted kidney. Besides, there are always tube-casts and a large

amount of albumen in the urine in cases of granular kidneys, when dropsy is present: although if the latter be not there, we may find at times no tube-casts and even no albumen in the urine of this form of morbus Brightii. The patient is, further, not sufficiently anæmic to account for the œdema; and when I examined her before in a private room, I detected no ascites, and only a moderate enlargement, but no cirrhosis, of the liver. From all this you will infer that an affection of the heart is left as the only cause to account for the dropsy and the other symptoms. Percussing the region over the heart, I find the area of dulness decidedly increased; especially on the right side the impulse is so very weak that palpation does not detect it, and on auscultation I hear the sounds of the heart, especially the first, very faintly only. The lungs are in a state of passive congestion: you can observe that she breathes with difficulty, and the bluish appearance of the lips gives evidence of the want of sufficient aëration of the blood. We have, therefore, here a typical case of dilated heart, which explains the dropsy, the dyspnœa, the congestion, and the fainting-spells. And how has this state of the main organ of circulation been brought about? The patient has been suffering during many years, more or less continuously, from an overacting, functionally disturbed heart. This increased action produced gradually hypertrophy, and the latter has ended, as it usually does, in dilatation of the organ. Had more attention been paid to the heart than to the bronchocele and the prominent eyeballs, this dangerous condition in which the patient is now might perhaps have been prevented. This case shows you the most serious sequela of Graves's disease,—a sequela which, when attending this malady, you never must lose sight of, you always must guard against. You may say that the treatment and cure of the whole ailment necessarily includes that of the heart-complication; but I mean that while trying to cure a patient of exophthalmic goitre, you should reduce from the very beginning the action of the heart, and not wait for the effect of your radical treatment. We will now send this lady into the waiting-room and speak about

THE TREATMENT AND THE PROGNOSIS OF THE DISEASE.

As I have mentioned already, the cause has to be looked for in the vaso-motor ner-

vous system. The treatment may be divided into three parts,—first, to quiet the excitement of the heart, till the success of the main treatment makes this unnecessary; secondly, to cure the vaso-motor affection, the radical treatment therefor; and, thirdly, to remove any sequelæ, as some enlargement of the thyroid gland, etc.

In the beginning of the disease and when it is fully developed, abstraction of blood either from the arm by venesection, if severe dyspnoea exists, or locally from the enlarged gland by leeches, will nearly always do good. In cases of dysmenorrhœa with diminished discharge, or of amenorrhœa, blood should be locally taken away by leeches from the womb or by wet cups or leeches applied to the inner side of the thighs, and, besides, all means should be employed—as hot sitz-baths, etc.—to re-establish the normal flow. The tincture of the root of aconite is given internally till the turbulent action of the heart is quieted and the impulse has been decidedly weakened. If, then, the main treatment should not have succeeded as yet in producing a regular action of the heart, digitalis with quinia and belladonna, perhaps in pill-form, as follows:

R Quinæ sulphat., gr. ij;
Extr. digital. fld., ℥ss;
Extr. belladonn., gr. $\frac{1}{12}$;
Gum. acac.,

Glycerin., aa q. s. ut f. pilulæ.

S.—1 ter die should be administered till the action of the heart has become regular.

Whenever the impulse again becomes heaving, recourse must be had to aconite. Herewith we fulfil the first indication—the quieting of the heart—in the beginning and at the full development of the disease. But sometimes we meet with cases where the blood of the individual affected by the disease has been before already in an anæmic condition. In such cases the treatment, in the very beginning, has to be different. Here no abstraction of blood will do good, and aconite only harm. Whenever the latter does not reduce the action of the heart alone, and the rapidity of the pulse, but produces even a greater frequency of the latter, without influencing the irregularity of the heart's action, then aconite is not indicated, but digitalis, iron, quinine, and belladonna are the remedies on which we have to rely. If we have to do with subsequent dilatation of the heart, as in the third case brought

before you to-day, digitalis, iron, and strychnia, besides rest in the recumbent position and a good nourishing diet, are our only means. The utmost attention should be paid to keeping the secretions open, diuretics administered to stimulate the function of the kidneys in cases of dropsy, and dry cups applied, and, besides, carbonate of ammonium given, if the lungs are in a state of passive congestion. But the prognosis is bad if dilatation of the heart has once fully developed. In such a case, death is only a question of time.

As regards the main or radical treatment by which we try to re-establish a normal condition of the vaso-motor nervous system, electricity is our only remedy, and the galvanic current the best form in which to use it. The positive electrode is applied just below the angle of the lower jaw, and the cathode over the seventh cervical vertebra. The current must be strong enough to produce, when interrupted, a moderate feeling of vertigo; or the cathode is placed directly over the swelling, and the anode as before. These applications should be made daily, and each *séance* last from ten to fifteen minutes. This treatment was recommended first by Meyer. Almost every electrician prefers some change of his own, but the principle of the application is almost invariably the same. One applies the cathode over the solar plexus, another moves the poles about, and still another uses general faradization. The latter I have found utterly useless. Meyer's method will reduce the frequency of the pulse, lower the temperature (which is here, as in all cases of excited circulation, somewhat increased), improve the heart's action, and diminish considerably the size of the thyroid gland; but I have seen no case of perfect recovery by it, even if iodide of potassium and the remedies I recommended before for the heart were administered at the same time. The only plan of treatment which has proven successful with me is the following. Place the anode in the auriculo-maxillary fossa, and then introduce into the tumor a strong needle, connected with the negative pole of a constant battery. This application—continued each time for about ten to twenty minutes—is repeated every second day, and, after undoubted improvement has set in, about twice a week. Besides, six minims of Squibb's prepared fluid extract of

ergot are injected twice a week into the swelling, and, at the same time, the treatment first mentioned is not neglected. You abstract, therefore, blood under the conditions indicated, administer, as I explained, the remedies to act on the heart, and, lastly, I recommend you to give internally iodide of potassium, beginning with five-grain doses and gradually increasing them to about half a drachm *ter die*. I have seen in a number of cases a cure result in from seven to twelve weeks, and have never known the treatment to fail utterly if persevered in by physician and patient. Frequently, after the re-establishment of a natural flow of the menses and of a regular and unexcited circulation, and after disappearance of the prominence of the eyeballs, a little swelling of the thyroid gland will remain. The long-continued use of iodide of potassium internally (interrupted, perhaps, every six weeks for one week) and the daily painting of the residual swelling with the tincture of iodine will, if persevered in, remove the last traces of the former tumor.

In conclusion, gentlemen, let me remind you once more of the advice I gave you,—whatever treatment you adopt, always to bear the fact in mind that the worst sequela of exophthalmic goitre is a dilated heart, and, while it may be years in developing, try to guard with your treatment against that before all, from the very beginning and at every stage of the disease.

ORIGINAL COMMUNICATIONS.

THE TREATMENT OF VARICOCELE BY EXCISION OF REDUNDANT SCROTUM.

*Read before the Philadelphia County Medical Society,
September 21, 1881,*

BY R. J. LEVIS, M.D.,

Surgeon to the Pennsylvania Hospital and to the Jefferson College Hospital, Philadelphia.

ALTHOUGH varicocele is one of the most common surgical affections, the sufferer is generally dismissed by the surgeon with the statement that the disease is incurable, and with only the palliative treatment of a suspensory bandage, to be worn continuously. This course is due to a conviction of the correctness of one or of all of the three following objections to the operation by ligature:

First. The usual procedure of ligating the spermatic veins for the cure of varicocele is dangerous to life.

Second. A want of confidence in its permanent benefits.

Third. The liability to loss of the function of the testicle on the side operated upon.

Whilst admitting that each of these disastrous results may occasionally follow the operation by ligature of the spermatic and pampiniform veins, I do not think that the risk is great enough to warrant general avoidance of the procedure, but have been for many years in the habit of performing it in cases which I have considered of sufficient severity or gravity to justify the slight risk. Yet I have generally, in the ordinary cases of varicocele, as they present themselves, been rather inclined to simply recommend the palliative recourse to a suspensory bandage.

It is now with much satisfaction that I adopt by preference a method of operating which seems to be entirely efficient, and which appears to be free from all the risks and other objections referred to.

As a result of varicose enlargement of the spermatic veins, the dartos muscle becomes, by continued over-extension, relaxed, and fails to give support to the testicle. Observation shows that, in cases of large dilatation of long continuance, the integument of the scrotal sac becomes much attenuated and pendulous. Occasionally, from want of tonicity of the scrotal integument, the veins in and underlying the skin become much enlarged. A preternatural redundancy of the scrotum is mentioned by Dr. Agnew in his *System of Surgery* as a condition inclining to produce varicocele.

The relaxed, pendulous, and attenuated state of the scrotum associated with varicocele must have very long ago attracted the attention of surgeons and suggested a remedy by retrenchment of redundancy.

Sir Astley Cooper appears to have been the first to generally adopt the procedure, and his example was followed by a number of other surgeons.

The reports of the success of the operation appear to have been always satisfactory as regards its immediate and ultimate results; yet the practice seems to have been long discontinued, and most of the modern treatises on surgery either ignore it or give it merely the briefest mention.

I am inclined to believe that the theory and practical results of the operation have never been in question, and that all that was wanted were proper methods and means for executing it. Many years ago, in a case of varicocele with marked redundancy and relaxation of the scrotum, I operated by excising a portion of the integument, having first simply tied a cord tightly around as much of the scrotum as I deemed proper to remove. I then cut off the portion, leaving a stump for the application of sutures, which were introduced in radiating lines across the cut surface, thus uniting all concentrically into a small point of union. The encircling ligature was then untied, leaving the apposition to be maintained by the sutures. The healing was rapid and the effect in every way satisfactory, and the patient remained cured while for a long time under my observation. I have never repeated this crude but seemingly satisfactory procedure, but, in cases where the severity of the symptoms of pain and mental distress demanded it, have until recently continued to operate always by subcutaneous ligature. I have had no unfortunate personal experience of real disasters in my own cases, but have been much impressed by the unfavorable and even fatal instances which have been reported by other surgeons.

Quite recently my interest in the operation of excising redundant scrotum for the cure of varicocele has been renewed by a convenient appliance devised by Dr. M. H. Henry, of New York, which gives perfect facility, precision, and efficiency to the procedure. The instrument devised by Dr. Henry is a clamp, the grasping portion of the blades of which is about ten inches long. It is curved in accordance with the raphé on the median line of the scrotum. The surfaces of contact of the blades are serrated, so as to securely hold the integument. The handle of the clamp is a spring which closes the blades, and additional clamping power is obtained by a screw adjusted at each end. There is also a detachable guide, which may be used at the option of the operator to direct and make uniform his line of excision. For removal of the redundant integument strong scissors or a knife may be used.

The amount of integument to be removed can be best determined by temporarily adjusting the clamp whilst the patient is in the standing position; and it

may be conveniently outlined on the moistened skin with the ordinary aniline pencil. As to the extent of the excision, each case must have its own requirements, but it should be sufficient to secure the testicle for a time at a higher position than that of the sound side, and the error most likely to occur is in not removing enough.

It is hardly possible, with ordinary care, to include any but integumental structures in the clamp, but a simple test which I have applied will render the excision absolutely safe in this respect. If the scrotal integument is held between the operator and the light of a window, it will show uniform translucency up to the border of the tunica vaginalis, and the extent to which excision may be practised is thus clearly indicated.

The excision should embrace a portion of the anterior and inferior part of the scrotum, fixing the clamp at the raphé or median line, and drawing the integument into its grasp entirely from the affected side. The effect of making the excision at the raphé is to locate in the median line the very small linear cicatrix that remains, so that eventually all disfigurement is avoided. If made, however, in any portion of the scrotum, the rugous folds of the skin conceal it so as to be not readily observable.

The incision should always reach to the most dependent part of the scrotum, so that, if inflammation with suppuration should unfortunately follow, drainage would readily take place. In my own experience, thus far, and also in that of Dr. Henry, no such necessity has practically occurred.

Metallic ligatures, to hold the edges of the wound in close and accurate apposition, may be placed in position before the excision is made, but it is as well to insert them after the section is completed and the guide removed; but they must always be introduced while the clamp remains in position. Interrupted sutures are inserted very near together, and, with a view to close apposition and to insure against hemorrhage, they should be not more than a quarter of an inch apart.

I have not seen hemorrhage follow the operation in any case. In one case there was considerable effusion of blood into the connective tissue of the scrotum, and the healing was thereby rendered more protracted.

My plan of dressing the wound is simply to cover the scrotum with a piece of lint saturated with carbolized oil or cerate of a five-per-centum strength. This is held in position by the ordinary pelvic and perineal bandage, the bandage being somewhat tightly applied to prevent hemorrhage, and to avoid œdematous swelling of the loose connective tissue of the scrotum. In the daily after-dressings the carbolized oil or cerate is continued, and is held in place most conveniently by an ordinary scrotal suspensory bag.

A CASE OF FIBROID TUMOR OF THE UTERUS.

BY WALTER C. STILLWELL, PH.G., M.D.

DURING the month of July, 1880, I was called one evening to see Mrs. K., whom I found in a very prostrated condition, pulse very weak, face pale, the surface of the body cold and moist, and suffering with excessive hemorrhage from the uterus, so much so that the bed was entirely saturated with blood; she was unable to void her urine. On questioning her, I obtained the following history of the case.

As far back as 1876 she had noticed that at her menstrual periods she had excessive flooding, but not accompanied with any pain. Two years afterwards (1878) she began to have great pain of a sharp lancinating character, lasting a week, at her menstrual flow. At about this time she consulted a physician, who discovered a tumor situated in the hypogastric region, extending into the inguinal on the left side. Up to this time she had never noticed any unusual swelling in the abdomen, as she was quite stout. She was treated by the physician, with some improvement in her symptoms. From the date of the discovery of the tumor until the time I was first called in—which was fifteen months ago—there was no appreciable enlargement of the tumor. She never had any interference with the passage of urine. She had been married five years, and had never been pregnant.

On making a vaginal examination, I found a large fibrous mass protruding from the os externum about three and a half inches; the os was dilated to the diameter of three inches, and firmly grasped the mass as a tight band. It was impossible to insert the finger or any instrument beyond that point, but still there was sufficient space around the tumor between it and the edge of the os to allow the blood to flow, which it did in large quantities. The tumor had descended farther into the pelvis from the position it had occupied in the abdo-

men, as described by the patient. Her condition was such that any extended examination at the time would have been injudicious. Means were at once taken to relieve her most urgent symptoms. She had not passed any urine for several hours, and on introducing a catheter it was with much difficulty passed into the bladder, the instrument taking an upward and very oblique course; and the tumor could be felt pressing the catheter against the symphysis pubis, and requiring it to be inserted fully four inches before the bladder was tapped.

For the pain one-eighth of a grain of morph. sulph. was administered hypodermically, and repeated in half an hour, with marked relief. One fluidrachm of the extr. ergotæ fld. was ordered to be given every two hours in connection with alcoholic stimulants and concentrated liquid nourishment. Under this treatment the hemorrhage lessened very materially in the course of three or four hours, and finally ceased. After the ergot had been kept up in the dose and frequency as stated, for twenty-four hours, the stomach became irritable, and it was then given four times daily, but in the same dose. Under its use great expulsive efforts of the uterus caused the fibrous mass to be extruded about an inch farther, and so strangled it that after two or three days it began to break down and slough off and came away in small fragments, and the putrid discharge which then occurred was counteracted by disinfecting injections, such as carbolic acid and permanganate of potassium.

During all this time the bladder had to be catheterized regularly. The woman made a slow recovery, gaining strength only after chalybeate tonics and the most nutritious diet were given. The patient was under treatment about a month, when she concluded to stop taking any more medicine.

July, 1881.—A year has passed away since the treatment, and she has had very little trouble, only experiencing slight pain and little hemorrhage at her periods, and only once has it been necessary to use the catheter. She submitted to a vaginal examination a day or so ago, and the condition of the parts was about as follows. An ovoid mass was revealed protruding into the vagina, and by sweeping the finger around I found it to be free from attachment two-thirds of its circumference; the remaining third seemed to coalesce with the walls of the uterus as far up as the finger could reach. The os was almost obliterated, and it was impossible to recognize where the vagina ended and the uterus began, except where the attachment of the tumor joined the wall of the uterus, where could be felt what appeared to be a portion of the os externum. As the introduction of any instrument alongside of the mass to find out the distance from the commencement of the vaginal to the end of the uterine portion would

in all probability have provoked a severe hemorrhage, I deemed it best to desist, as no practical advantage would have accrued. On palpating the abdomen, I found the fibroid extended to the upper margin of the left inguinal region; and by pressing one hand over it there and a finger of the other against the vaginal portion, it could be moved about and lifted a little, showing that the uterus was free from any attachments to the adjacent parts. Palpation also gave an idea of the size, which I should judge was about eight inches long and three to four in diameter. The general condition of the patient at this time is fair: she has good appetite, her strength has improved very much, and she is able to attend to her domestic duties. She has not menstruated nor had any hemorrhage for over three months; and as she is approaching the time of life when the menstrual function ceases, her prospect is good, as atrophy, fatty or calcareous degeneration of the mass are liable to occur. No operation of any kind for its removal at this time would be justifiable.

INHERITED IDIOSYNCRASY TOWARDS BELLADONNA.

BY PEDRO A. BETANCOURT, M.D.

HAVING been called to assist a boy presenting all the symptoms of an acute bronchitis, with the superaddition of a very continued *nervous cough*, I added to the general treatment of the bronchitis the following prescription:

R Extr. belladonn.,
Extr. hyoscy., aa 10 centigr.;
Syrup. toluatan., 150 gram. M.

S.—A teaspoonful every hour until the cough abates.

After a few doses the cough was relieved.

A little child, 3 months old, was then taken with the same symptoms, and the mother thought convenient to use in the case the same prescriptions, moderating greatly the doses; so she administered to the child five drops of the belladonna prescription, and was surprised at the effect produced as soon as the medicine was taken. The child commenced to present all the typical symptoms of belladonna-poisoning. She sent for doctors, and two practitioners reached the place in time to combat the poison and to relieve the child. When I came the mother was tranquil, and told me that once, suffering from supraorbital neuralgia, she had used the belladonna ointment in very small quantity, and had passed through all the symptoms of poisoning from the drug. In this

case inheritance of the idiosyncrasy is very probable, and shows that we should investigate such conditions in families before administering such drugs to children.

CIDON, CUBA.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINICAL SERVICE OF DR. WM. GOODELL,
PROFESSOR OF CLINICAL GYNECOLOGY IN
THE UNIVERSITY OF PENNSYLVANIA.

Reported by WM. H. MERRISON, M.D.

CANCER OF THE NECK AND BODY OF THE
WOMB—ABDOMINAL TUMOR IN A YOUNG
WOMAN—CANCER OF THE WOMB AND AN-
TERIOR WALL OF THE VAGINA CAUSING A
VESICO-VAGINAL FISTULA.

GENTLEMEN,—This morning, a lady about 51 years of age came to my office and told me that she had reached the climacteric, and yet she found that, after her husband had been with her, a discharge of blood followed, with subsequent hemorrhages. As soon as I heard that statement, I said to myself, "Here is something that the male organ impinges on during intercourse and causes it to bleed."

What could that be? The first thing I thought of was carcinoma, because my experience would lead me to think that at that time of life it would probably be the cause. Another cause might be the presence of a polypus. A third cause might be an exceedingly bad laceration of the cervix. If there were a bad laceration, with eversion of the lips of the cervix, the male organ would hit the lining of the cervix and might cause bleeding, but the bleeding would not be as great as in carcinoma.

When I made the examination, she said to me, "Doctor, I wish you to tell me frankly whether I have a cancer or not; for, if I have, I want to know it." I promised to tell her. After making the examination, I said to her, "This is of the cancer family, but it is not a hard cancer,—not that kind which is found in the breast. Those are rarely curable; but these are sometimes curable." If I had not promised to tell her, I should not have used the word cancer, but should have described it as a bad ulceration which was very hard to cure. Cancer is an ugly word to say to a woman; it is signing her death-warrant. Women often

say to me, "Now, doctor, if you find a cancer, don't tell me." As a rule, I never tell a woman that she has cancer, if I can possibly avoid it. When I told that woman that these cancers could be sometimes cured, I told her the truth, for I have cured three cases by treating them in their incipency; at least, the disease had not returned after five or six years.

Now as to the history of the case before us. She is 51 years of age. For the past two years she has had large hemorrhages. Her complexion has been changing. You cannot see this very well on the face, as the ether has changed the color somewhat; but you can see it here on the buttocks. The skin is of an ashy hue; but do not be misled by the color, for malaria and large hemorrhages will cause a similar tint. The color is not a pathognomonic sign.

Dr. Baer has examined this woman and found a cancer inside of the cervix. None of you can make a mistake in these cases of cancer of the uterus. You may mistake something else for a cancer, but you can never mistake a cancer for anything else. When these cases come to you, the disease has in the great majority of cases passed to the stage of ulceration. If the case came under observation before ulceration, I do not know that it could be diagnosed; but the most common malignant disease of this part of the body is epithelioma, and it usually begins with an open sore. I have known an instance where the disease began as a scirrhus: but this is rare.

There are two forms of epithelial cancer which attack the neck of the womb,—the vegetating and the excavating. The former is known as the cauliflower excrescence, and is not found so frequently as the latter.

This is a case of the excavating form. I find a pit filled with granulations which are friable. I often compare this to the crater of a miniature volcano. Around this irregular pit is a hard rim. This womb is movable. Usually, when the case comes to you, exudation, either inflammatory or carcinomatous, has caused fixation of the organ. Simply touching this mass has, as you see, caused bleeding, and frequently there will be profuse hemorrhage. There is no need of the speculum to make the diagnosis of cancer. Do not introduce one, for you will be sure, if the womb is fixed, to have bleeding, and you will be unable to see anything on account of this bleeding.

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I propose to scrape away as much as I can of this diseased tissue. This operation has, in my experience, never been followed by any bad results. I once made an opening through the womb into the abdominal cavity; but the woman had no unfavorable symptoms, and at the end of ten days went to her home, some distance in the country.

While at the late meeting of the American Gynecological Association, held in New York, a friend asked me what I did in these cases of cancer. I told him that I scraped away the diseased tissue, but that I did not use the hot wire, because I had seen serious and even fatal secondary hemorrhage follow its use. A few days ago I received a letter from this gentleman, in which he gave me the history of a case in which he had tried this plan, after getting home from the meeting of the Association. He says, "I went to work and scraped away all of the diseased mass, as you told me. After having done this, I found a little nodule on the posterior surface of the vagina, which I excised with my scissors, and immediately a torrent of blood rushed out, as though I had cut one of the iliac arteries. I used vinegar, but it had not the slightest effect on the bleeding." [I had told him that I used vinegar in controlling the hemorrhage.] "I then used Monsel's solution, without avail. Finally I controlled the hemorrhage by a block of alum placed over the bleeding point and a tampon in the vagina; but the woman died fifteen minutes afterwards." The last words of his letter are, "It was rather rough on a fellow, wasn't it?" I do not understand what could have caused that hemorrhage. Possibly he may have cut into an aneurism of the circular artery; but I have never seen the artery so much enlarged, nor have I ever seen a hemorrhage like that in these cases.

In removing this tissue, I generally use the dull curette,—Simon's curette, named after Simon, of Heidelberg. I first catch the neck of the womb with the double tenaculum, and ask an assistant to hold it, while I use the curette. I rarely use a speculum in this operation, but direct the curette by a finger in the vagina. The womb measures four inches. I am afraid that the disease has also involved the body of the organ. I am now scraping away the cervix and making a funnel-shaped opening in it. If I had known that I

was to operate on this case this morning, I should have brought with me my Paquelin's cautery to cauterize the surface after I have scraped away all that I can. Instead of the thermo-cautery I shall to-day use nitric acid.

As I proceed, I find that the whole cervix and the cavity of the womb is involved, and all that I can hope to do is simply to prolong life and make it more bearable. I can, with the utmost ease, get my finger into the cavity of the womb.

This is a case in which it might be proper to try the removal of the whole womb. This is an operation that I have never performed. It has been so fatal a one that I have not felt warranted in recommending it, and, indeed, I have rarely seen a case in which it could be performed, because of the fixation of the womb to adjacent tissues. If this woman were perfectly willing to have the womb removed, I should not object to removing it *per vaginam*. The removal of the organ through the abdominal wall has been a very fatal operation, the patients as a rule dying immediately or a short time after the operation. In this case the vagina is very capacious. The womb could be pulled down and gradually enucleated. Some of the vessels could be tied, while others could be closed by the hot iron.

I once had the day appointed for removing the uterus, but a day or two before the appointed time I discovered a slight œdema, and on examining the urine I found a large quantity of albumen present. I then refused to operate, although implored to do so, both by the lady and her husband. A few days after this she had a uræmic convulsion.

I have now nothing but a shell left. In some places I have gotten through the whole thickness of the cervix. To check the bleeding, I prefer vinegar to Monsel's solution, because the latter forms a hard blood-plaster which has to decompose and break down before it can be removed.

I shall not make an application of nitric acid, as I intended to do, because the case is one in which nothing can be done; and if there is a return of the disease requiring operation, I shall use the hot iron. I hope that this operation may diminish the discharge and give her more comfort; but when the body of the womb is involved, there is little chance of doing any good.

ABDOMINAL TUMOR IN A YOUNG GIRL.

Here, gentlemen, is a case which comes to us for diagnosis. I have had her put under the influence of ether. She is a girl 20 years of age. She has been very well, with the exception that she now has a little pain, probably in the right side. She eats well, sleeps well, and works well. She is unmarried. Last May she discovered that she had a tumor. At that time it was as large as her fist. Since then it has grown rapidly.

Now, gentlemen, in a case like this—an abdominal tumor in a young unmarried girl—we have to make a very cautious diagnosis. On several occasions I have had sent to me cases of supposed ovarian tumor which have proven to be cases of pregnancy. I once had a young unmarried girl sent to me by an excellent diagnostician as a case of ovarian tumor. The girl came innocently. I examined her and found that she was pregnant. I had ballottement and the foetal heart-sounds, and in addition I found milk in the breasts. When I told her what the trouble was, she was perfectly dumfounded. I asked her to tell me frankly if she had not allowed liberties, and she admitted that she had; but she said that nothing could have come from it. I suppose that intercourse had taken place, and that withdrawal had been practised; but we have instances where impregnation has occurred when the semen has simply fallen on the external organs, some of the spermatozoa entering the vagina.

This girl, I believe, is innocent of any suspicion that she may be pregnant; but that only makes the diagnosis more difficult. She says that she has had her monthlies regularly until the last period, and I believe her. A designing woman may tell you that she has been regular in order to get you to pass the sound and induce an abortion.

I examine the breasts to see if there is any areola or any of the enlarged glands described by Montgomery. I find no marked change. If this is pregnancy, it has reached about the eighth month,—the tumor is up to the ensiform cartilage,—and we ought to have milk in the breast; but I find none.

Examining the tumor, I find a lump which feels very much like the head of a child; but it may be a cyst. She has also plenty of fat in the abdominal wall. An

ovarian tumor usually, but not always, takes away fat in an astonishing manner.

Again, both ovarian tumors and pregnancy are cysts, so that the external evidences will be the same in both. We have dulness over the tumor. In the left flank there is resonance. This would exclude dropsy, for the fluid would gravitate to this region, and we should have dulness on percussion, unless, as might happen, the colon had become adherent to the wall of the abdomen.

I do not know that it would be possible, in the lecture-room, to hear the foetal heart-sounds even if they were present. I shall try. I hear nothing but the beating of her own heart. Fluctuation is not marked in this tumor. It is not marked in ordinary pregnancy, nor is it marked in polycystic tumors.

I shall now make a vaginal examination. I shall first ascertain if the hymen is present. If it be present, the inference will be very strong that this is not pregnancy; but I once had a case in which I had to cut the hymen during labor. At a late meeting of the Obstetrical Society, I spoke of a case of ectropion and erosion which looked very like a laceration of the cervix. It occurred in a woman of whom I could not have the faintest suspicion of unchastity and in whom the hymen was present. A physician present then told me that he had delivered a woman three times, and yet her hymen had never ruptured. I can easily introduce two fingers into this vagina. The cervix is small and unlike the cervix of pregnancy. The next point is, can I venture to pass the sound? These are the cases in which physicians are very commonly making mistakes. The best anatomist that England ever had—John Hunter—tapped a woman who he thought had an ovarian tumor. A few days later, labor set in, and the child was born with the mark of the trocar on its shoulder. So far as my examination goes, I should say that the womb is over on the right side and that it is empty. I am going to pass the sound with the greatest gentleness into the os and see if it passes in the direction of what I suppose to be the womb. I shall pass it very gently. I have done this on several occasions and have not ruptured the membranes. I now remove it and find that it has only passed two inches. I shall try again. There is another thing that would lead me to think

that she is not pregnant,—that is, the tumor does not present to the vagina. It is with difficulty that I can feel it.

If I cannot make a diagnosis, there is only one thing to do,—that is, to wait. If it is pregnancy, in a month or two it will all be over; but if it is a cystic tumor, it will develop slowly.

I think that I now have the sound up to the fundus of the womb. The sound shows a measurement of just two inches and a half. I'll try that again. I do not think this is a case of pregnancy, but there are certain symptoms which I do not understand. I am pretty sure that I have the sound up to the fundus of the womb. I move the tumor, but it imparts only a slight motion to the sound. The tumor seems to be not fastened very closely to the womb. I move the sound in all directions, and the womb moves with it. I do not think that the sound is rotating in the cavity of the womb. I tell you candidly, gentlemen, that I do not know what this tumor is. I see nothing to help me to decide as to its nature: it is irregular. Here is a lump which might possibly be the head of the child, and here is a body which might represent the shoulders. I have had the sound in the womb, and while I cannot declare positively that it reached the fundus, I feel a certain amount of assurance that it did. I am not prepared to make any diagnosis to-day. I shall ask her to return in a couple of weeks, but give her no hint as to my doubts. I shall tell her that we are hopeful that something can be done. You know that there is a way of talking without saying much. We shall also give her, as a placebo, the phosphated mixture of iron, which is not unpleasant to take. When she returns, I shall again examine her.

Before she leaves the room, let me again listen for the heart-sounds. I hear no sound but her own heart.

CANCER OF THE UTERUS AND VAGINA CAUSING VESICO-VAGINAL FISTULA.

In this case we have very marked cachexia. The history is as follows. She is 41 years old. Last spring she had what her physician described as the change of life coming on. What does she mean by that expression? She means that she had bleeding. There is an idea very prevalent, but with little foundation, that women bleed a great deal at the change of life. Bleeding at the menopause may

occur in the following way. The woman may miss her periods for two or three months, and then a severe monthly come on; then she may again miss it for several months, and then another large bleeding occur; but this is not the way that the change of life usually occurs. When a woman loses blood every two or three weeks, or for two or three weeks at a time, it is usually caused by carcinoma. The patient who was first before you had lost blood for three weeks. I have not examined this woman at all. She says that she has no pain. You see, gentlemen, how marked is the cachexia. Look at that hand, almost translucent. It seems as though you could look through it. See that little thread-like vein, and here on the forehead we have an artery without any blood in it. We simply see the mark of the artery. The color of the skin is sometimes darker than this: when typical it is of a leaden hue.

Here is a new symptom which I do not fully understand,—that is, inability to hold her water. When she coughs, it comes in a gush; at other times it simply dribbles away.

Examining her, I find that she is in an excoriated condition, which I presume is due to the urine. This may be a case in which the disease has made an opening into the bladder. I shall now pass my finger gently into the vagina. I shall not use the sound. I have now discovered what the trouble is, and shall have the patient removed, so that she may not hear what I say.

This is a case in which the cervix has been attacked by the disease and is completely eaten away. The cancer has eaten up anteriorly and gnawed a hole into the bladder, through which I could pass two fingers. We have here a carcinoma affecting primarily the cervix and secondarily the vagina, and opening into the bladder, causing a vesico-vaginal fistula. The result of this case can be easily foretold. It is entirely hopeless.

What are the lessons that we have learned to-day? First, that cancer of the neck of the womb is easily diagnosed; and while you may mistake a bad ulceration for cancer, you will never mistake a cancer for anything else. The second lesson is not to use a speculum in examining a case of cancer, for you can gain no information by the eye: the finger will tell you all,

and the speculum may cause hemorrhage, requiring the use of the tampon to control it. The third lesson is that in abdominal tumors you will often find it difficult to make a diagnosis, and that you must not in such cases be in a hurry to use the sound; but if the case is urgent and you must use it, call in some one to back you and share the responsibility. Finally, that if you are not certain as to the diagnosis, wait if possible until the period of gestation has passed before expressing an opinion.

TRANSLATIONS.

IODOFORM AS A DRESSING, PARTICULARLY IN TUBERCULOSIS OF THE BONES AND JOINTS.

—In spite of the very general use made of iodoform, even outside of its employment in the treatment of venereal affections, this substance has by no means been employed to the limit of its usefulness. The evil odor of iodoform may be remedied to a very considerable extent by the use of tincture of tonka bean or of one of the essential oils, as cloves or winter-green. For these reasons the following extracts from a paper by Mikulicz, of Vienna, read before the recent Congress of German Surgeons (*Cbl. f. Chir.*, No. 20, 1881), may be not without interest. The facts are derived from Billroth's clinic. Fungous tuberculous processes, and also fresh, gangrenous, diphtheritic, and other wounds which were not suitable for antiseptic treatment, were treated with iodoform. The result showed that iodoform is one of the very best of recent additions to our means of dressing wounds. According to Binz, Högyes, Moleschott, and Oberländer, the local effect of iodoform is due to the slow but protracted influence of iodine liberated gradually by chemical decomposition. The iodine thus liberated does not react so strongly upon the tissues as in the form of tincture of iodine, but it is absorbed, appearing in the urine, but not influencing the system generally to a toxic degree. Experiments upon the antiseptic effects of iodoform show that it prevents the appearance of bacteria in decomposing fluids.

Mikulicz employed iodoform in the form of powder, of gelatin rods containing iodoform (1 part to 2 of gelatin), iodoform emulsion, and solution of iodoform in ether (1:5). The iodoform was placed directly

upon the wound and covered with cotton and an impermeable cover. The dressing was changed at first every second to fourth day; later, every one to two weeks. Thirty-six severe cases were thus treated,—1, eight fresh wounds; 2, five ulcers and sanious or diphtheritic wounds; 3, twenty-three fungous-tuberculous processes, such as (a) extensive caries of the knee-joint, with destruction of the epiphysis of the femur and numerous fistulæ, in which sixty grammes of iodoform sufficed to cause healing and consolidation in two and a half months; (b) caries of the elbow-joint, cure in one month and a half; (c) caries in the hip-joint; (d) extensive tuberculous infiltration of the soft parts of the upper arm and forearm, and other cases. Further, in a case of fungous inflammation of the ankle-joint, without fistulæ, parenchymatous injections of ethereal solution of iodoform were employed. After fifteen injections of half a syringeful of the solution, the fungous mass disappeared. In one case of lupus of the foot a simple strewing of the surface with powdered iodoform was sufficient to produce a clean granulating surface.

The advantages presented by the use of iodoform as a dressing for ordinary wounds, etc., are that it is an excellent antiseptic (when brought into direct contact) for wounds of all kinds. It quiets pain and irritation, reduces the secretion to a minimum; the dressing need seldom be changed, and is easy of application and is unaccompanied by constitutional disturbance. In the form of iodoform gauze it surpasses in simplicity and certainty all applications heretofore used in wounds communicating with the mouth, pharynx, intestine, vagina, etc., affording perfect antisepsis and absence of pain. It is particularly cleansing in ulcers and gangrenous wounds. It has a specific influence upon fungous-tuberculous granulations (but only on direct application), which soon change to healthy, healing surfaces and rapidly cicatrize.

CASE OF DIFFUSED TUBERCULOSIS OF THE BUCCAL MUCOUS MEMBRANE.—Dr. J. Eichhoff (*Deutsche Med. Wochens.*, 1881, p. 413) gives full notes of the case of a man of 39, thin and poorly nourished, with a greatly enlarged under lip hanging out so that the mouth could not be closed. Thin saliva continually dripped out. The surface of the under lip was uneven and rough and covered with tough mucus. In

the centre could be seen, at the junction of the lip with the gum, a transverse ulcer of about two and a half centimetres' breadth, with smooth, gray-coated surface and slightly irregular, sharply defined borders. At the right commissure of the lips, on the mucous membrane, a roundish, coin-sized ulcer could be seen, with smooth, grayish surface and somewhat overhanging borders. A similar ulcer could also be found on the right side of the mucous surface of the upper lip. The upper lip itself was much swollen, rough, and covered with mucous masses. The teeth were defective. The tongue was markedly swollen, especially in its anterior and lateral portion. There were a number of pin-head-sized yellowish deposits scattered over the mucous membrane of the tongue, together with several small ulcers. On the tip of the tongue was a flat yellowish ulcer, and along its border several elongated cicatrices. Several small ulcers could also be observed in the mucous membrane of the hard palate.

The external cutaneous surface showed a number of typical tuberculous ulcers. Physical examination of the chest showed involvement of the lungs. The patient died within a few weeks, when the lungs were found pneumonic and filled with caseous deposits. The upper air-passages were the seat of similar ulcers to those found in the mouth. Likewise the intestine was studded with ulcers, and tuberculous adhesive peritonitis existed. Syphilis was carefully excluded, and the case was evidently one of marked tuberculosis.

DEMONSTRATION OF A CASE OF CARCINOMA OF THE VERTEBRA.—At the recent meeting of the Congress of German Surgeons (*Cbl. f. Chir.*, 1881, p. 35), Dr. F. Busch showed the specimens from a case where no external carcinoma had been observed during life. The patient showed a slight prominence over the spine of the lowest dorsal vertebra which presented the appearance of a beginning spondylitis. He died in an attack of acute asphyxia, post-mortem examination showing embolus of the pulmonary artery as the cause of death. A carcinomatous deposit of considerable size was found on the head of the pancreas, which was probably the primary tumor. Metastatic masses had proceeded from this point, but only so far as the vertebra and the ribs. As to the vertebra, it was interesting to note that the eleventh dorsal

vertebra had contracted to five millimetres' thickness under the influence of the carcinoma. A cross-section of one metastatic mass of the rib showed within the white marrow-like body of the tumor the exact contour of the normal rib,—a proof that there was no expansion of the bone-substance, but a growth of the tumor itself.

THE PHARMACOLOGY OF PODOPHYLLUM PELTATUM.—Dr. Valerian Podwysotszki (*Arch. f. Exp. Phar.; Deutsche Med. Wochens.*, July 30, 1881) says that from the rhizome of the podophyllum and from the commercial podophyllin—which, as is known, is not a pure alkaloid—he has isolated the following: 1, an extremely poisonous substance, podophyllotoxin; 2, an extremely bitter substance, picropodophyllin; 3, an acid, podophyllic acid; 4, an inert substance similar to quercitin, and, in addition, a green oil and a crystalline fatty acid.

Podophyllotoxin is the active ingredient of podophyllin. It may be obtained in a crystalline form, and acts as an active poison on animals (dogs and cats), five milligrammes being fatal. Picropodophyllin is found to the amount of eight or ten per cent. in commercial podophyllin. It tastes insupportably bitter and acts as an emetocathartic. Three-hundredths of a centigramme were fatal to animals. Podophyllic acid appears to be without perceptible action.

Podwysotszki thinks that podophyllotoxin is decomposed by the action of alkalis into the less active picropodophyllin and the inert podophyllic acid. The dose for man has not yet been ascertained. If it is to be employed, of course it must be given in decidedly smaller doses than podophyllin.

PRIMARY TUBERCULOSIS OF THE PALATE.—Dr. B. Küssner (*Deutsche Med. Wochens.; Cbl. f. Chir.*, 1881, p. 457) brings forward five cases of primary tuberculosis of the palate and pharynx. The first of these cases terminated in a very probable cure; the second in a certain cure; the third endured and even increased in size slightly for a long time, then remained stationary, the patient finally dying of tuberculosis of the lung; the fourth was accompanied by a rapidly-developing military tuberculosis; the fifth, by tuberculosis of the lung, larynx, etc. It is thus seen that all of these ulcers are not progressive; but the suspicion of possible syphilis should

be completely set at rest in future reports. Küssner thinks it likely that among the so-called scrofulous, easily curable ulcers of the mouth and pharynx found in children, many are in reality tuberculous in character.

Palliative treatment is possible in the earlier stages. Küssner recommends active cauterization with nitrate of silver or Paquelin's cautery. A five-per-cent. carbolic acid solution is useful as a local anæsthetic.

SCLERODERMA (?) AND ONYCHOGRYPHOSIS.—Dr. A. Wölfler (*Zeitschr. f. Heilk.; Cbl. f. Chir.*, 1881, p. 460) gives the case of an elderly man who suffered a complicated fracture of both bones of the left forearm in 1870. On account of severe hemorrhage, the brachial, and later the axillary, artery was tied. Entire cure did not take place until several sequestra of bone were removed, nine months later. Four years ago the finger-nails of the left hand began to thicken and to crook like claws; they appeared as if splitting off in layers, cleft, rising in transverse ridges, and twisted like a ram's horn. The skin near the nails was wasted, rough, dry, and papery, without hair or folds, smooth, shining, and colder than the other hand. The fingers were crooked in the interphalangeal and metacarpo-phalangeal joints, and could only be moved slightly. Sensibility was perfectly preserved; muscular excitability by the induced current was not entirely gone. Wölfler inclines to Rehn's view,—that the process in these cases is essentially irritative. He leaves open, however, the question as to how far this chronic irritation is connected with disturbance in the blood-current, and how far dependent upon changes in the nervous apparatus.

INJECTIONS OF PILOCARPIN IN ŒDEMA OF THE GLOTTIS.—At a recent meeting of the Société de Thérapeutique (*Bull. et Mém. de la Soc. de Thérap.*, 1881, p. 146) Dr. Paul read a paper by Dr. F. Sorel, giving an account of a case of œdema of the glottis where, other remedies having failed, one centigramme ($\frac{1}{16}$ grain) of pilocarpin dissolved in a cubic centimetre of water was given. Slight perspiration resulted, with profuse salivation and cough, with the expulsion of large plugs of thick muco-pus. The relief was immediate. The injection was repeated a few hours later, and the next day two centigrammes ($\frac{1}{8}$

grain) of the nitrate of pilocarpin were injected, giving rise to salivation and sweating.

Dr. Paul added, in discussing this case of Dr. Sorel, that he had found pilocarpin useless and sometimes harmful in ascites symptomatic of cirrhosis of the liver due to telluric influences; also, that in a case of pleurisy with effusion, injections of pilocarpin had been given on four successive days without effect, the influence of the drug only first manifesting itself on the fifth day. Digitalis had been previously given in this case. Dr. Paul thought it possible that the vascular tension produced by the digitalis had neutralized the effect of the pilocarpin.

DURATION OF LIFE IN THE INFANT AFTER THE MOTHER'S DEATH.—In 379 cases in which Cæsarean section was made after death, 308 infants were born dead, 37 still gave signs of life, 34 were living. Among these last some 5 lived a somewhat long time.

Gaseski (*La France Médicale*, vol. ii., 1881, p. 137) has made experiments upon animals in order to ascertain the duration of the life of the infant after the death of the mother. He arrives at the following results. 1. In case of the sudden death of the mother the product survives. 2. The extraction of a living foetus is probable if it is made during the first six minutes following the mother's death. 3. Life, it may be hoped, can still be restored, in spite of a certain degree of asphyxia, in infants extracted six to ten minutes after the mother's death. 4. It is possible to save an infant after ten to twenty-six minutes. 5. The foetus is often extremely asphyxiated after the first minute. 6. The survival of the foetus is longer in proportion to the shortness of the interval of time which has passed between the cause of death and the complete cessation of the movements of the heart. 7. Death of the mother from rapid intoxication (poisoning) is more favorable to the survival of the foetus than death due to other causes.

PATHOLOGICAL HISTOLOGY OF PAINFUL SUBCUTANEOUS TUMORS.—George and Frances Elizabeth Hoggan (*Cbl. f. Chir.*; from *Virchow's Archiv*, Bd. lxxxiii. p. 233) examined a bean-sized tumor extirpated from the arm, finding a new growth enclosed in a capsule of connective tissue, and chiefly composed of thick cell-masses of the same type as the epithelial cells en-

closing the sweat-glands, which were arranged into narrower and wider tubular structures or into great solid formless cell-masses. The sweat-glands at a little distance from the tumor showed abnormal development. The authors explain the new formation as an adenoma of the sweat-glands. Within the latter certain extravasations were discovered in various stages of organization. Nerves could not be found, even after much trouble. The painfulness of the lesions must therefore be attributed to pressure by the relatively hard nodules on the nerve-twigs running over them.

INFLUENCE OF VARIOUS ALKALOIDS ON THE BODY-TEMPERATURE.—Several of Högyes's students (*Archiv für Exp. Path. u. Pharmacol.*, Bd. xiv. p. 138) have been making experiments with a view to ascertain which of certain alkaloids increase the body-temperature and which diminish it. The quantitative determination of the rise or fall is not considered. They find that strychnia, nicotina, picrotoxin, and veratria cause increase of temperature, while quinia and aconitia decrease it. The influence of muscarin and curara is uncertain.

RESORCIN AS AN ANTISEPTIC.—Dr. Du-jardin-Beaumetz (*Bull. Gén. de Thérap.*, vol. ii., 1881, p. 34) says that, although he does not entirely agree with the German views as to the antithermic power of resorcin, he considers it as giving excellent result in the treatment of surgical affections, and he believes it destined to replace carbolic acid in all external applications, on account of its solubility in all proportions and its absence of odor.

VITALITY OF TRACHEOTOMIZED PERSONS.—It having been asserted by writers, Mougeot among others, that persons tracheotomized for croup are unlikely to pass the age of puberty, Dr. Thouvenet (*Acad. de Méd.*, *La France Médicale*, vol. ii., 1881, p. 67) has written an article going to prove the contrary. Among persons operated upon by Thouvenet there are a number at present living at the ages of thirty-four, thirty, twenty-nine, twenty-seven, twenty-six, etc., years respectively.

CURE OF HYDROCELE BY INJECTION OF CHLORIDE OF-ZINC SOLUTION.—C. Boeck used two drops of a ten-per-cent. solution in half an hypodermic syringeful of water. A single injection into the unemptied sac effected a complete cure in five weeks.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 5, 1881.

EDITORIAL.

INDEX MEDICUS.

AT various times we have in these columns directed the attention of our readers to the *Index Medicus*. The scope of this peculiar and invaluable publication is too well known to require reiteration of the facts concerning it. The need that it has of pecuniary support has also been spoken of time and again; but the return of the end of the year calls for a fresh reminder to the medical public of the necessities of the situation. Newton may have won immortal fame by his *Principia*, but we doubt whether he achieved many dinners by it, except as a guest at the houses of the great. The higher and more scientifically valuable any publication is, as a general rule the smaller is its audience; but such publications are the foundations upon which utilitarian workers build. The ordinary general practitioner may not have much immediate use for the *Index*, but to the literature of the profession the book is an immense necessity,—a necessity which has never before been met, so that our medical force has been wasted, and our medical literature has been left weak and imperfect. Surely every prosperous doctor can afford six dollars a year for the development of his science, for the building up of the greatest charity of the world,—the medical profession. No doctor who writes even for medical journals can afford to be without the *Index* or at least without access to it: to save his own time and to make his articles complete he must be able to know at once what others are doing. Our object to-day is not, however, to appeal to the individual doctors to aid in the sustaining of the *Index Medicus*, but,

if possible, to awaken the various medical organizations throughout the country.

According to the statements of the publishers of the *Index Medicus*, the annual deficiency is now one thousand dollars. How many county medical societies there are in the United States we do not know, but certainly enough to make up this deficiency if each would subscribe for even a single copy of the *Index*. The large city societies ought to do much more than this. As Philadelphians we are proud that three of our local societies—the Philadelphia County Medical Society, the Philadelphia Pathological Society, and the Philadelphia Obstetrical Society—subscribed each fifty dollars to keep alive last year this great bibliographical magazine. As Americans we are ashamed that in the whole length and breadth of this land not one State or local medical society outside of this city was found to follow the example set. It is no less surprising than depressing that with absolute indifference they have all stood by and seen the great work tottering to its fall. New York, boasting continually of itself, its progress, and its wealth,—New York, where the *Index* is published, where so many of the profession dwell in palaces, are clothed in purple and fine linen, and fare sumptuously every day, has done nothing. Boston,—in its own conceit the Athens of America,—with its perpetual smile of self-content and its lips dripping with the honey of self-congratulation, has been as responseless as has Chicago, in its rush and greed for material wealth. St. Louis, Cincinnati, Baltimore, New Orleans, San Francisco, Pittsburg, Albany, and our innumerable smaller cities,—where are they? An annual subscription of twenty dollars from each of the societies of these cities would enable Mr. Leypoldt to continue the publication of the *Index*. Will they not give it?

The aid will probably be required but for a few years, until, by the growth of the European patronage and of the support

not only of individual physicians but also of libraries in this country, the subscription list has been increased by one hundred and fifty names.

We are glad to be able to state that our county society has renewed its appropriation of fifty dollars for 1882, besides subscribing for two numbers of the journal; and we doubt not the other societies will follow so soon as they meet. What is the matter with the old College of Physicians? Why does it not fall into line?

Let all physicians, who can, subscribe; let them see that their societies aid in the work; let them insist that the public libraries of their respective towns and cities take each a copy; and the enterprise will move hereafter easily and steadily along the grooves of habitual prosperity.

[New York, Boston, and Chicago medical journals please copy.]

PHILADELPHIA MEDICAL CLASSES.

THE idea seems to have spread in this city that the University medical class is seriously less than it was last year. On inquiry, we learn that the first or commencing class has exactly the same number in it as had that of last year at the same date. The preliminary examinations last year reduced the first-year class by about twenty men, and of course the second-year class of this year suffers. It is a curious fact, however, that the second-year class of the present session is distinctly larger than was the first-year class of last session. More new-comers have entered the second year than old members have dropped out.

The preliminary examinations instituted now for the first time in the *dental department* have been followed by a loss of about twenty students.

We have made inquiry in regard to the class of the Jefferson Medical College, but the dean has not answered our official note: so we presume the common report

that the class is somewhat smaller than that of last year is correct.

THE MARINE HOSPITAL SERVICE.

THE Marine Hospital Service is as much a governmental service as is the Medical Corps of the army. The organization arose from government, the appointments are made by government, and the pay comes from the nation. When a medical army officer is killed or dies of disease contracted in the service, his widow and children become, as it were, the wards of the nation and are supported by a pension. No such provision has been made for our unfortunate brethren of the Marine Hospital Corps; but it should at once be done. We notice that Dr. J. M. Green has died at Key West, of yellow fever, contracted through exposure in the line of duty, and that he leaves a widow unprovided for. Surely Congress should not only pass a proper pension act, but should make it retroactive, so as to take in this very sad case. To face tropical yellow fever requires more courage on the part of a Northern man than to lead a forlorn hope.

THE following clipping is from a reputable medical authority. It is so absurd upon its face that we suppose few will believe it; but it seems right to say that it has no foundation in fact. Dr. Agnew, we know, has not tendered any bill nor been asked for one. Many are the wiles of the newspaper man, sad are the wrecks he has made during the summer of professional reputations; but, assuredly, Dr. Agnew has passed the ordeal absolutely spotless.

"POOR PAY.—According to newspaper reports, the four surgeons in attendance on President Garfield—Bliss, Barnes, Woodward, and Keyburn—charged the Government \$4200 each, or \$100 each per day, for forty-two days' attendance. Dr. Agnew's bill for the same number of days for 'consultations, operations, and visits' was \$32,600, and Dr. Hamilton, for 'visits and consultations,' rendered a bill for a similar amount. The remaining thirty-eight days will doubtless be charged for at the same rate."

LEADING ARTICLES.

THE CASE OF GEORGE WOOD,
TRIED IN PHILADELPHIA FOR
VITRIOL-THROWING.

THE case of George Wood, recently tried in the criminal court of this city for the crime of vitriol-throwing, seems of sufficient interest to be worthy of record and comment. The subject is a man apparently nearly sixty years of age, who is said to have been a boisterous, eccentric person all his life, although quite successful in business. His only sister has for many years been insane, one brother suffers from chronic epilepsy, and the remaining brother has had at least one attack described as apoplectic. Mr. George Wood himself was afflicted for years with some form of disease of the bowels, and in the early summer of 1877 was operated upon by Dr. Agnew for piles. After this, very severe chronic diarrhœa developed, with bloody mucous passages and much suffering and exhaustion. He was continuously under the care of Dr. Knorr from the date of the operation until November, 1878, when professional attendance ceased, although the diarrhœa does not seem to have been materially relieved. The evidence of the case clearly showed that during the whole of 1878 and 1879, up to the fatal Christmas night, the unfortunate man suffered from the severest form of chronic diarrhœa, which reduced his strength very greatly and seems to have developed the mental disorder to which he undoubtedly was naturally predisposed.

After the operation for piles a very distinct but gradual change occurred in the actions, conversation, and habits of life of Mr. Wood. The sleeplessness was very great, and at last reached such a point that witnesses affirmed that he never slept more than a few minutes in the twenty-four hours. There was also constantly increasing physical restlessness, which was shown by his inability to sit still (even during meals he was continually jumping up and down), by his continual rapid walking to and fro through the house, or running out into the street and back, or going many times a day in and out of shops which he had been accustomed to frequent. He is said finally never to have been quiet at all, by day or by night. As he walked or ran he continually gesticulated, wildly throwing

his hands about, wringing them, pulling at his hair, unbuttoning his coat, etc. Sometimes he went crying as he ran; more often he poured forth a continuous stream of incoherent talk, cursing and swearing most vehemently, and speaking sometimes indecently about his disease and the persons who he declared had injured him or were about to ruin him.

There were undoubtedly distinct delusions, and all his wrath was concentrated upon three persons, to two of whom his delusions related. Dr. Knorr, "who had burnt his guts out with vitriol," and Mr. M—, who had "caused his disease" by giving him some supposed improper business advice, were the chief objects of his animosity, which was, however, directed also against his brother Charles, who had done nothing, but was "coming to ruin him." It should be stated that neither Mr. M— nor Dr. Knorr had given any just cause of complaint to Mr. Wood; also that repeatedly when Mr. Wood met Mr. M— he was perfectly friendly to him. Mr. Wood, during the spring or early summer of 1879, visited Dr. Agnew at his office several times for professional advice, and acted in such a manner that the doctor judged him to be insane, and wrote to his wife, advising her to put him in Burn Brae, Dr. Givens's Insane Asylum near Media.

The evidence showed clearly that by the autumn of 1879 Mr. Wood had become literally a wild madman, doing most crazy acts, at one time nearly setting his house on fire, continually threatening and making preparations for suicide, shouting incessantly and no less incessantly moving to and fro, very careless as to his dress, and finally becoming filthy in his habits. Yet he was allowed to go at large, although warning had been given by Dr. Agnew. On the 22d of December he visited Dr. Knorr's office, and, after a scene of violent denunciation, left, swearing vengeance. On the 25th or 26th of December he went to the house of an old but not intimate acquaintance, and, on finding that he was not at home, left word with his wife, Mrs. Sheppard, that he wished her husband would come to see him, as he had in his cellar some screws or machinery he would like to show him. The next day, at five P.M., Mr. Sheppard, sitting at his front window, saw George Wood pass by very rapidly, followed by his nephew watching him. He went out

and called George Wood, who either did not hear or did not heed his call, and then told the nephew to tell his uncle that he (Mr. Sheppard) was now at home. The nephew soon, however, lost sight of Mr. Wood, only, some minutes later, to see him in the gloom stoop alongside of a door-step, pour something from a bottle into a mug, and dart off.

George Wood must have gone directly towards the house of Mr. Sheppard, possibly with the intent of going to Dr. Knorr's, the general direction of the two places being the same. Mr. Sheppard met him, and a brief, friendly talk ensued: it lasted a few minutes, when George Wood started off, but after a few steps turned sharply upon his track, put out his hand containing the mug, and exclaimed, "Smell that," and directly after, with an oath, dashed the sulphuric acid in the mug over Mr. Sheppard's face. He then ran away as fast as he could. Shortly after this, not to state too many details, Mr. Wood was stopped whilst running in the street by his nephew and a police-officer; but after the officer had left him with his nephew (neither of them knowing what had occurred) he broke away, ran to the wharf and on to a ferry-boat. The gate-keeper, divining by the aspect of the man as he rushed past that he was a would-be suicide, shouted, "Stop that man." The deck-hands seized and, after a struggle, threw him, when he yielded and was taken home. A day or two subsequently, upon certificate of Drs. Knorr and Young, he was sent to the Friends' Asylum, near Frankford. The superintendent, Dr. Hall, on the witness-stand, stated that when George Wood came to the asylum he was undoubtedly suffering from violent general mania,—was sleepless, excited to the utmost pitch, violent, smearing his excrement over the furniture, shouting and yelling and continually rushing up and down the room in which he was locked. After six months' treatment he was sufficiently recovered to have the liberty of the grounds.

For the defence, Drs. Preston Jones, Hall, and H. C. Wood testified that, having heard all the evidence, they were fully convinced that George Wood, at the time of the assault, was suffering from general mania and was therefore irresponsible for his actions. After a few witnesses had been called in rebuttal, and on cross-examination had furnished excellent material for the

defence, the district attorney, on behalf of the commonwealth, asked for a verdict of "acquittal on the ground of insanity," stating that he was convinced that George Wood had been insane at the time of the throwing of the vitriol, and that he feared a disagreed jury would result if an acquittal were not directed by the court. In case of a disagreement the man would be practically freed, whereas under the existing laws of Pennsylvania an acquittal such as asked for would put the subject in the custody of the court, where he would be so taken care of that no repetition of assault need be feared. The judge charged in accordance with these sentiments, but the jury were loath to comply. After a time, however, they yielded, and the verdict was recorded. After all was over, the writer of this was told by a jurymen that the jury, before the district attorney's last action, stood three for acquittal, three "on the fence," and six for conviction. Evidence so strong as to cause the prosecution to voluntarily withdraw their case failed, then, to convince more than three out of twelve jurymen that there was a "reasonable doubt" as to the prisoner's sanity at the time of the commission of the act.

Fortunately, in the present case there was no disagreement between the medical experts called by the defence and by the commonwealth. Indeed, the abandonment of the prosecution was no doubt largely the result of the opinions given by Dr. D. D. Richardson and other experts called by the district attorney. There are, of course, cases of alleged insanity in which there is more room for honest difference of opinion than in the present instance, but we cannot help thinking that one source of disagreement is often found in the acting as experts of men who have not really studied insanity. In America, he who can flourish well the amputating-knife is thought by many of the laity to be versed in all forms of medical lore; and we have even seen surgeons who shared the delusion. It was therefore with much satisfaction that we heard Dr. D. Hayes Agnew, in clear, forcible language, upon the stand, affirm that he was no expert in insanity, and that his testimony should not be considered as coming from such a one. Modesty like this adorns him who has it, aids in the obtaining of justice, and exalts the profession.

An important moral to be drawn from the terrible tragedy we have just epitomized

is in regard to the responsibility of those whose blood and marital relations make them the natural guardians of those who are by reason of insanity no longer able to take care of themselves, and to the still greater responsibility of those medical men who, led either by proper or by sinister motives, have of late years been trying to increase the distrust with which the lay community looks upon asylums for the insane.

In the newspapers we continually read articles concerning the rights of the insane: expressions of the necessity of the enactment of laws for their protection: accounts of doctors prosecuted for signing certificates of insanity: and even records of successful suings out of writs of habeas corpus by lawyers who are fired with ambition to become freers of the insane and fillers of their own coffers. All this is bad enough; but in medical journals, and, we are ashamed to say it, in the secular press also, we read furious attacks upon our insane asylums made by those who hold seemingly high places in our profession; attacks which are in great part unwarranted, and which are calculated to do immense injury by destroying whatever confidence the laity have now in the management of our asylums. The latter are not perfect institutions, but are, on the whole, well managed by men who are as honest, well informed, and well meaning as any other class of our profession, and whatever change is to be brought about in our system can only safely be attempted by fair, honest discussion with them and *without* the public.

He who stirs up public feeling against the asylums, to our thinking, is an evil, in that, though he be honest, great wrong may—and, if his influence be great, must—follow his acts.

The case of George Wood is but a common instance of the fact that the insane need protection against themselves, and that in the asylum they are for themselves far better off than they are at liberty. It is a no less common example of the truth that the sane need protection from the insane. Not only do the records of criminal assaults show this, but also the daily martyrdoms, on the part of those who conceive it their duty to keep their relations and friends at home although insane, or who are forced by public opinion or the law to this mistaken kindness. We might write at much greater length concerning the subject, but this leader is already so overgrown

that we for the present dismiss the matter, with the reassertion that in the great majority of cases we believe that not only do the safety and happiness of the sane demand the confinement of those who have lost their reason, but that the chronically insane themselves are happier under the discipline of the asylum than under the half and fitful control of those whom, it may be, they have been accustomed to govern.

MALARIAL ORGANISMS.

PROBABLY the most useful work in which the National Board of Health is engaged is in the fostering of researches upon etiology. There lies upon our table the report of Dr. Sternberg made to the Board concerning the nature of malaria and the correctness of the asserted discoveries of Klebs and Tommasi-Crudelli as to the production of malarial fever by an organism, the *Bacillus malariae*. Injections of Roman mud and of New Orleans gutter-slime, or of foul soil from a Mississippi delta, certainly kill rabbits; but we think Dr. Sternberg has clearly shown that it is not probable that the rabbit suffers from intermittent fever. The fact that rabbits in malarious districts do not suffer from malaria makes it probable that they are not subject to the ague-poison; and the temperature curves of Dr. Sternberg and of the Italian investigators themselves show that the fever which has followed their injections into rabbits has not a type at all comparable to that seen in human ague. Moreover, Dr. Sternberg has shown that the post-mortem lesions in the rabbit are not at all peculiar, but resemble closely those found in septicæmia. Klebs and Tommasi-Crudelli also attach some importance to the asserted fact that in malarial fevers there is in man an increase in weight in the early stages of the attack, and that they have found this to take place in the rabbit poisoned with Pontine mud. We think that most physicians will agree with us in believing that early gain of weight is not a diagnostic symptom of malarial fever, and Dr. Sternberg has shown that sometimes, at least, gain of weight does occur in septicæmic rabbits. Dr. Sternberg very properly does not assert that he has disproven the existence or toxic properties of *Bacillus malariae*, but he seems to us to have clearly shown that there is at present

no evidence that the organism possesses the deadly powers ascribed to it. A very important part of the work of Dr. Sternberg was the attempt to study the specific characters of the bacillus, so as to know whether it really has existence as a distinct form worthy of an individual name. The doctor did find in the mud from near New Orleans, and also in gutter-liquids taken from within the city limits, certain filaments of vegetable nature resembling those of *Bacillus malariae*, and probably identical with it. There does seem, however, a want of anything worthy to be called specific characters, and filaments closely resembling, and, to us, indistinguishable from, the *Bacillus malariae*, may be found in any foul mud near this city. It should be remembered that the bacillus has not yet been discovered in the human blood or body, and it does look as though the Italian experiments, careful and skilful though they may have been, have had too much weight attached to them, and that we are no nearer any knowledge of the ultimate nature of the malarial poison than we were ten years ago. Dr. Sternberg thinks we might experiment upon human beings, because intermittent fever is so easily cured and so rarely fatal; but we are inclined to believe it will be some time before this is carried out. The difficulty is not that malarial fever, if produced, would be serious, but that no one can tell what other affection, instead of ague, might be caused in the attempt at the production. It looks very much as though foul mud were a septic material; and he will be a brave or reckless man who purposely makes a compost-heap in his own cellular tissue.

CORRESPONDENCE.

LONDON LETTER.

THE season for the reassembling of the medical schools has come round again, and with it the addresses at the various institutions, including one at the London School of Medicine for Women. *Place aux dames*. We will be glad, all of us, to hear what Miss Annie Reay Barker, M.D., had to say. She referred with pardonable pride to the achievement of Miss Frances Prideaux at the London University, who took the gold medal and exhibition for anatomy. Two other ladies distinguished themselves honorably. Let Miss Barker speak for the ladies herself: "Not

only were the ladies working well as students, but they were beginning to spread themselves gradually and quietly over the country, becoming centres of usefulness in the towns in which they had established themselves, and thus supplied a need which was making itself more apparent, now that there was a possibility of obtaining the help of skilled women doctors." The movement has provided for London six of these lady doctors, Edinburgh two, and Manchester, Leeds, and Bristol four, one place commanding the services of two, or Birmingham owning one,—it is not quite clear which. "Miss Barker bore personal testimony to the progress which had been made in Birmingham, and expressed her pleasure in speaking of the fairness, practical good sense, and kind feeling with which medical women had been received there. The prejudices against women doctors must, Miss Barker told the students, be overcome, not by showing ill will in return, but by honest, true work, and by showing that, though they have entered a profession, they have lost none of the refinement and dignity of true gentlewomen." So much, then, for the ladies.

Of course it is not an easy matter for the gentlemen who deliver the addresses to select a topic so readily as the lady lecturer, nor is there much originality in any of the addresses, that by George P. Field being the best. At King's College the introductory address was delivered by Sir John Lubbock, F.R.S. He commenced by speaking of the prosperity of King's College and the increase in the number of students in all the principal departments. He gave it as his opinion that the time had come when more joint action could be taken by the educational institutions of London under the auspices of the University of London. For instance, by so doing, lectures might be given on subjects too special for any single college or school. He distributed the prizes with a few judicious remarks, of which one is sound enough,—“Success in life depends much on many things which no examination can test.” There seems much risk at the present time of forgetting this. He recommended industry without neglecting holidays. “Much time,” he said, “went in occupations which were neither work, rest, exercise, nor recreation.” Such he termed “waste time.” There is much that is worth making a note of in this truism, for truism it is. Probably few men have put in more well-spent and less “wasted time” than the well-known baronet and banker. At St. George's Hospital, Mr. Warrington Haward thought it profitable to advise the student as to how he should pursue each particular study; he preferred to speak of the spirit or tone of mind in which medical studies should be pursued. He should neither depend too much upon his teacher nor trust too completely to himself. To accept nothing without personally

testing it is to render a medical education too long to be practicable: without the exercise of the mind it becomes enfeebled and unfitted for individual judgment, "and, like the weakened muscles of disease, liable to irregular and errant action and easily turned aside by the smallest obstacle." He pointed out how the knowledge of the day has been built up by fragments added from time to time, cemented firmly into a solid structure. With this the student must become familiar as the object of his studies, and without acquaintance with it the student is unfit for his future position. He did not think the proper or philosophical state of mind for students was one of profound scepticism of every one and everything but themselves. He might have told them that older persons than students are sometimes so engrossed with their own labors and their own merits that they are incapable of accurate comparison of themselves with others; their very concentration in themselves prevents their seeing the proportions of others properly: the gaze bent inward sees outward things but imperfectly. Such people put in betwixt their vision and the object a set of lenses which are like a telescope. Put the small lens to the eye, and the object is seen larger than the reality; put the broad end to the eye, and the object is seen far away and disproportionately small. In practice they put the small end to the eye when they look at themselves, but the larger end when they survey some one—or, indeed, anybody—else.

At the Middlesex Hospital, Dr. Douglas Powell, after the usual congratulations, proceeded to point out some important matters in diseases. *Compensation* was a great matter in chronic diseases, indicating the reserve powers inherent in organic structures. Compensation in function was of the first importance. What is the vicarious principle in which one organ discharged the function of another was often illustrated in medicine. It was not merely from its scientific interest, but from its practical importance as well, that this was so well worth study. He then pointed out how hospital practice differed from ordinary practice, and yet how both furnished opportunities for giving information on matters sanitary and hygienic, and the value of the doctor as an educational instructor on some very important matters in life. At St. Thomas's Hospital the address was delivered by Dr. A. J. Bernays, the lecturer on Chemistry. He referred to the honor conferred upon Sir William MacCormac, who was knighted for his conduction of the International Medical Congress last July. He discussed the subject of freedom of thought as to the genesis of all things, and quoted John Simon's remark of the late Dean Stanley, that "he was the liberator of the conscience of mankind," the late illustrious and estimable dean having recently distributed the prizes at that hospital

when this was said. He then referred to a suggestion made by him before, viz., that a fifth year of medical study would be of much value to students by extending their experience. A further acquaintance with physiology he deemed most desirable, a conclusion shared by all thoughtful persons interested in matters medical. There was a laboratory at South Kensington where such study could be conveniently carried on by the student while he still continued to walk the hospitals, adding to his practical knowledge, and, it may be added, seeing how increased physiological knowledge can be made available in strengthening the physician's hands in his daily work. For instance, how much light does a knowledge—a real, not a mere verbal, knowledge—of the chemical composition of the bile-acids throw upon the appropriate dietary in many cases of liver derangements, whether primary or secondary to some trouble in the heart or the respiratory organs! He concluded by pointing out the progress of chemistry in recent years, especially constructive chemistry.

At University College the address was given by Dr. Vivian Poore, Professor of Medical Jurisprudence. He objected to the expression "medicine and the allied sciences," stating that medicine was scarcely yet a science. He preferred the expression "the application of various branches of knowledge to the alleviation of human suffering." He said, "It may be compared to one of those figures which we sometimes see in the intricate tracery of a Gothic window or the elaborate pattern of a rich mosaic. In these traceries and mosaics one may discern forms of great beauty and symmetry, which, although they are perfectly defined, seem to have no true outline of their own, but depend for their shape, regularity, and beauty upon the intersections of adjacent figures. A clearly defined and many-pointed star may be the result of the intersections of many equal circles. Remove one of them, or allow the circles to vary in size, and the star will lose much of its symmetry and beauty. So it is with medicine as a science. It has no outline of its own, and its perfection depends upon a due proportion being maintained in the amounts of the various so-called natural sciences which enter into its composition. There are those who hold that the student of medicine has but little need of special training in the natural sciences; but such a position is untenable." He then inveighed against the present outgrowth of medical terms. The dictionary of the New Sydenham Society is expected to embrace three hundred thousand medical and scientific terms. He said, "Words must be as objective as possible; *i.e.*, they should bring the subject with the utmost vividness before the mind's eye." I feel this personally interesting, as recently a reviewer poured a shower of abuse upon me for using the title "heart-

starvation" in a pamphlet, applying the term to conditions of mal-nutrition, especially of the heart and diaphragm, due to imperfect assimilation of albuminoids in the liver. I thought it put "the subject with the utmost vividness before the mind's eye:" he thought differently, and designated the term "sensational," and abused me accordingly. Dr. Poore did not think it desirable to go back to Latin as the language of science, as it was not elastic or expansive enough for present wants. He thought that an international nomenclature for anatomy and histology might advantageously be adopted, as the English terms were often different from those in use on the Continent. He then indulged in a very justifiable sneer at the parrot-like use of long words practised by some persons, as those "who have talked, for example, of 'sclerosis.'" He continues, "Among unworthy motives which have induced us to have long words must be reckoned the desire to appear more learned than we are; and there was a time, perhaps, when there was very little true knowledge behind the verbiage which was the chief stock in trade of the profession. Now, however, times are changed. Pathology, or the study of disease, has become a true science, and we are no longer content merely to translate the symptoms of which the patient complains into Greek or Latin, as the case may be, and call it a diagnosis. We now recognize when a patient comes to us complaining, for example, that he has lost power on one side of his body, that by calling his trouble 'hemiplegia' we make no forward step. It is merely telling him in Greek what he has confided to us in English. It is rather a step back, for it throws what has been called 'the decent obscurity of a dead language' over a matter which is self-evident. Our duty now is to discover the *cause* of his symptoms, to form a *judgment* or *diagnosis* on the disease-process at work, and its exact situation, and to make a *forecast* or *prognosis* as to his chances of recovery, and the best means of bringing it about." After pointing out how a monstrous compound would often sell a quack nostrum, and the comfort the old lady derived from "that blessed word Mesopotamia," he concluded, "The advantage of using plain language is nowhere more manifest than in courts of law, where the life or reputation of a fellow-creature may depend upon the medical witness making himself perfectly understood by the twelve plain men who constitute the jury. Not only the jury but counsel and judge also are probably ignorant of terms which to such witnesses have become a second nature. Reporters for the press are equally ignorant, and, owing to a non-comprehension of the witness's language, his evidence, when it appears in print, will seem to him and his professional brethren a mass of rubbish." This is a charitable conclusion, to say the

least of it; but whether it always contains the whole truth is a matter for some questioning. Dr. Poore certainly drew attention to what is a very important matter.

Mr. George Field, Aural Surgeon, delivered the introductory address at St. Mary's Hospital School, which was very well received. He welcomed the men, pointed to the handsome bequest of twenty-five thousand pounds, which enabled them to build a new wing and raised the number of their beds to two hundred and fifty, so that they were approaching the original design of a hospital containing three hundred and eighty beds. He then referred to the leaders of the medical profession, who, in his opinion, "deserved life-peerages," and said that it was hardly fair that a President of the College of Physicians should receive a title one grade lower than that often bestowed on a respectable contractor or alderman. He believed that to increase social respect the lights of the profession should take higher fees. "If our leaders took five or seven guineas, it would do good in every way. They would not be obliged to work so hard themselves, the juniors would get more practice, the profession would be better thought of, and the public would be better served. What would a junior counsel think of the Attorney-General taking the same fees as himself? Fancy calling a bishop or lord chancellor out of bed at three in the morning; and yet the heads of the profession had to submit to this. If any rich numskull has feasted too liberally, he immediately sends for what he considers the first opinion, naturally thinking he will get the best for his money; but if the fee were one hundred guineas, the heads of our profession would sleep peacefully, their slumbers would not often be disturbed." A much less fee than this would suffice to mark off the seniors of the profession from their juniors, would protect them and remunerate them, and would educate the public to a fitter estimate of the profession than exists at the present time. Further, "there is no body of men who work so hard as the doctors, and often for nothing, being scarcely thanked for what is termed charitable work. Hospital authorities ought to offer their medical officers some remuneration, instead of, as is frequently the case, making the staff pay even to become governors of the institution. Again, the poor-law medical appointments, involving wear and tear of body and mind by night and day, do they not demand, instead of a wretched pittance of ten or twenty pounds a year to gentlemen of culture and position, a requital of fiftyfold as much?" As an illustration of what is here stated, I can say that in my early years of practice in my native village the mole-catcher for the area of which I was the parochial medical officer received five times as much as I did. So much for moles over paupers. And when a rupture came and I threw up the appointment, my profes-

sional neighbors (?) on each side took the appointment between them; and the distance being pleaded as an excuse for their neglecting their duty, I practically had to attend the poor gratuitously, until the scandal became so great that the guardians and myself once more came to terms, I accepting the scanty emolument, on the principle that "half a loaf is better than no bread." No wonder, then, when the guardians of the poor, so called, reduce the emolument until it is impossible to even half do the work for the money, that the less conscientious members of the profession often get the appointments, and balance the account by indifferent attendance on the poor. In country areas, the local doctor must either take the appointment or practically do the work while one or more of his neighbors draw what little salary there is.

Mr. Field then proceeded to point out the unsoundness of the ground of the opponents of vaccination, and the unquestionable benefits derived from the practice, also the objections to the Contagious Diseases Act (Human). It might be argued, if men would sin, they should be punished; but, granting that, how about inherited disease? "Total deafness and loss of sight are far from uncommon from this cause; and Hinton found that one-twentieth of the aural patients at Guy's Hospital suffered from hereditary syphilis. No other cause, except perhaps fever, brings on deafness so rapid and so complete; and knowing all this and having a remedy at hand, are we not to make use of it? If all the idiots, the wretched, puny, diseased mortals, who have to drag out a life of misery from no fault of their own, could rise up in judgment, they would cry shame on these sickly sentimentalists who are working hard for the repeal of the very acts which people of intelligence and information know to be the only way of stamping out this dreadful pestilence." He said, in corroboration of the present existing state of matters, that the cases of disease seen at the Lock Hospital are now mainly of the milder type. Much of the mortality of children under one year is unfortunately from inherited syphilis, despite what has been done. He held that greater acquaintance with the needs and wants and the actual condition of the sick poor by ladies and men attending ambulance classes would be useful in extending to these unfortunates sounder views and better knowledge, so that prejudice could no longer stand betwixt them and what is good for them. He concluded by pointing out how alone a strong sense of duty pervading all his thoughts, words, and works could enable the medical man to ride out in safety the storms of this troublesome world, and to look back with satisfaction to an honorable career in the mitigation of human suffering.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A SPECIAL conversational meeting was held at the hall of the College of Physicians, Philadelphia, September 21, 1881, Dr. Charles K. Mills, Vice-President of the Society, in the chair, at which meeting a paper was presented by Dr. R. J. Levis on "The Treatment of Varicocele by Excision of Redundant Scrotum,"* and several cases were exhibited showing the result of operation. Communications were also received from Drs. J. T. Eskridge,† C. K. Mills, E. T. Bruen, H. Leffmann, and John B. Roberts, which were generally discussed.

DISCUSSION UPON VARICOCELE.

Dr. J. M. Barton approved of the method of operation, and reported the following case:

About nine weeks before, he had seen with Dr. S. M. McCollin a patient with double varicocele. The scrotum was pendulous, and measured seven inches from the penis to the most dependent portion. Dr. Henry, of New York, kindly loaned him the instruments, and the operation was performed in the manner described, three and one-half inches of the most dependent portion of the scrotum being removed. The stitches were all removed within a week, and in two weeks the wound was entirely and solidly healed and the patient was attending to his business. The treatment was without pain, contrasting favorably in this respect with the operation by ligation of the veins.

On examining the patient recently, he failed to find any enlargement of the veins upon one side, and regarded it as a complete cure. On the other side, however, enlarged veins could still be felt, and he thinks that even more of the scrotum might have been removed with advantage. This operation was performed without loss of blood. In contrast with it he referred to another patient, in whom retrenchment of the scrotum was performed simply with the bistoury, which was followed by a very profuse and troublesome bleeding, and later by an alarming secondary hemorrhage.

Dr. Ferdinand H. Gross said, "As the subject of varicocele is before the Society, I take the opportunity to mention two cases upon which I operated some time ago at the German Hospital, and in which I made use of the elastic ligature as a means to compress and obliterate the spermatic veins. The result was entirely satisfactory, being a radical cure in both instances. The vas deferens was separated from the spermatic veins, the scrotum punctured with a narrow bistoury, and an eyed probe, armed with the elastic ligature, was passed around the vessels in the usual

* See p. 69.

† See No. 363, p. 44.

manner. The ligature was drawn with as much force as its substance would bear without risk of breaking, and secured by a triple knot. The latter was then allowed to be drawn into the scrotum, and the end of the ligature to hang loosely from the small external wound, which was covered by an antiseptic dressing. When the radical cure for varicocele is aimed at, I think the elastic ligature possesses several advantages over some of the operations employed to effect the same end. The unremitting quality of the constricting force exerted upon the included vessels, due to the elastic nature of the substance, renders it unnecessary to tighten the ligature from day to day, as is done in some of the other modes of procedure, and all pressure upon the scrotal integument is avoided. But an advantageous point, to which I would refer more particularly, is that the elastic ligature, even with its persistent pressure, does not readily cut its way out by ulceration,—at least it did not in the cases alluded to,—nor is it necessary that it should. When the hardened mass above and below the ligature gives assurance that the vessels have been permanently occluded, the knot can be drawn to the outer wound and cut out. The length of time the ligature was allowed to remain in my cases was twelve days, but I should not again permit it to remain so long. I cut it out when I noticed that it was not likely to work its own way out in a reasonable time by ulceration of the included vessels, and I found, too, that traction upon the ligature from time to time did not appear to facilitate the process, but simply had the effect, for the time being, of opening or rather widening the loop which encircled the vessels, showing these to have formed a firm cord at this point, around which the loop would again close when traction was discontinued. That ulceration does not so readily set up about the constricted vessels when the elastic ligature is employed is another circumstance in favor of its use in varicocele, since the risk of phlebitis, one of the dangers of the operation, is lessened.

Dr. Nancrede inquired if the results are permanent.

Dr. Levis said that his own cases were too recent to decide this question, but Dr. Henry had reported one in which no recurrence had taken place seventeen years after the operation. He had no doubt that if enough tissue were removed the cure would be permanent.

He also stated that a large number of young men—estimated at about one in ten—have varicocele to a greater or less extent. Many of these require no operation, their trouble being principally due to sexual hypochondria. But it must be admitted that varicocele sometimes constitutes a disabling infirmity, and renders a man unfit for military service and many other duties which require the standing position. A conductor on a railroad came to him with a varicocele that produced so much

suffering that he was on the point of giving up his position. As regards the choice of operation, he considered that retrenchment of the scrotum was much to be preferred, on the score of safety of the patient, to ligation of the spermatic veins and pampiniform plexus. Sir James Paget reports a nearly fatal case of pyæmia, and Prof. Gross had a death, following the old operation. The present plan appears to be free from danger to life, and is not likely to cause atrophy or loss of function of the testicle.

TWO CASES OF TRAUMATIC NEURITIS.

Dr. Charles K. Mills exhibited two men, and made the following observations:

The first case is a sailor, who, during a storm, about eight months before, had been struck by a wave and had fallen to the deck with considerable force. He was stunned and unconscious, and afterwards was confined to his bunk for some time. In the course of two weeks he got on his feet again, but was unable to use his left arm. At present the left arm generally and the muscles around the shoulder and on the front and back of the left side of the chest are atrophied. The limb is helpless. Upon examining for sensibility, we find extreme hyperæsthesia of the chest, shoulder, and upper arm to within a couple of inches of the elbow, while below this point the arm, forearm, and hand are anæsthetic.

The second case was also traumatic in its origin. The patient, a man aged 36 years, was caught in a machine about seven years ago. He was lifted several feet from the floor, and his left arm was broken in three places. Extreme hyperæsthesia is present in about the same region as in the first case, the forearm and hand being also anæsthetic.

The question of diagnosis is important in neuritis, because upon the prompt application of treatment often depends the prospect of recovery. The diagnosis in the first case rests between a lesion of the brain, or spinal cord, and that of a nerve-trunk,—between a central disorder and a neuritis. The presence of hyperæsthesia and increased local reflex over the affected nerve, and the extreme wasting of the muscles, favor neuritis. The condition is explained by the supposition of the existence of an ascending and descending neuritis originating in the region of the brachial plexus. The anæsthesia below a certain line is due in the early stage to the fact that inflamed nerves are poor conductors of impressions. In advanced stages their conductivity is destroyed, and they atrophy.

It is important to recognize the true nature of these cases early. Topical remedies are particularly useful in the early stages. Local blood-letting by leeches is often very serviceable. Mercurial inunction with blue ointment may be used. A combination frequently used is equal parts of ointments of iodine, belladonna, and mercury. After using

this four weeks, rapid improvement had taken place in one of the cases; but the disease subsequently relapsed. Blisters are also very useful. Mercury and potassium iodide internally can be used. After the acute symptoms have passed, or have been brought under control, the continuous galvanic current is of much value. Hypodermic injections of morphia, or of morphia and atropia, are very efficacious for the relief of the pain.

In reply to a question concerning the temperature of the parts affected, he said that in the beginning the local temperature was slightly increased over the hyperæsthetic region. From the few observations he had made, he declined to make any positive statement concerning local temperature.

HEPATIC ABSCESS, DIAGNOSTICATED DURING LIFE.

Dr. E. T. Bruen presented a specimen consisting of the liver from a case of hepatic abscess, with a portion of the colon showing the lesions of chronic dysentery, thickening, and ulceration. The abscess was in the inferior portion, posteriorly, of the right lobe. It was perhaps as large as a small cantaloupe. There was another abscess, evidently secondary, which occupied the anterior portion of the left lobe, and during life had presented externally as a tumor to the right of the epigastrium. During the last months of the patient's life, the tissues between the seventh and ninth rib on the right side were boggy or œdematous; the other abdominal viscera, kidneys, and spleen were normal, the diaphragmatic pleura unaffected, and the lungs healthy. The attention of the Society was first called to the pathology of abscess of the liver. The branches of the portal vein were dissected, and branches were found to be in direct association with the portal vein: the vein seemed to have melted down in the suppurative process. There was no embolus found in the portal veins; but as the original embolus partook of the infecting variety, it probably broke down into pus with the surrounding tissue.

This sort of embolus is in contrast with the less infecting variety, the results of which are mechanical obstruction to an artery, in some cases the plug remaining intact and the adjoining area infarcted with blood, and in others the adjacent tissues being destroyed by a process of gangrene, due to the more absolute arterial obstruction.

In this case the lesions of dysentery left no doubt as to the origin of abscess. The symptoms were next alluded to, and attention directed to the absence of jaundice or deficient activity of digestion in the small intestine. The appetite, on the contrary, was excellent. There was no obstruction of the portal vein, and no dropsy.

The symptoms claiming most interest were then detailed. First, the temperature was always low.

The date of the patient's admission to the Philadelphia Hospital was March 21, 1881. His attack of dysentery occurred in December, 1880. When admitted, diarrhœa was still a symptom.

The temperature ranged as follows:

March 21.—A.M.: Pulse, 88; temperature, 99°. P.M.: Pulse, 100; temperature, 102½°.

March 26.—A.M.: Pulse, 92; temperature, 99°. P.M.: Pulse, 100; temperature, 101½°.

April 1.—A.M.: Pulse, 92; temperature, 99°. P.M.: Pulse, 104; temperature, 101°.

May 1.—A.M.: Pulse, 104; temperature, 98½°. P.M.: Pulse, 116; temperature, 99°.

The thermometrical record, until a few days before death, never presented the hectic fever-wave with variation of several degrees. It was rather a remittent type of temperature record.

Now, the facts in reference to the intestinal symptoms should be collaborated with the temperature record; for it is characteristic of abscess of the liver to give remittent temperature wave, at least in the formative stages. When hectic is seen, the abscess is apt to be large and increasing in size; but when probable intestinal lesions coexist, the enigma of diagnosis is more easily solved. Pain was marked in the last two weeks of this patient's life; but at this time the abscess in the left lobe was pointing, having first caused adhesions between the peritoneum and the abdominal walls. In this case the pain was always referred to the epigastrium. In the last weeks of the case the tissues included between the sixth and tenth ribs in the axillary line became very œdematous and crepitant, just as sometimes occurs in empyema. The diagnosis included differentiation between empyema, remittent fever, and abscess. Remittent fever was readily excluded by the therapeutic test and the season of the year in which the attack occurred. Empyema was excluded because the respiratory murmur extended down to the physiological margin of the liver. Percussion also indicated the presence of the lung over nearly its normal area. Evidently the disease was more serious than a moderate empyema would excite.

In diagnosis it may be well at times to grasp salient features of a case in order to render a sure diagnosis. The only caution that must be observed is in regard to one point,—viz., keep the mind always open to adopt a diagnosis by exclusion, whether this confirms or rejects the "snap" diagnosis.

In favor of hepatic abscess the symptoms seemed cumulative.

A final test was aspiration: this was practised upon the abscess, supposed to be located in the left lobe. The material withdrawn proved to be pus, and a microscopic examination resulted in the discovery of recognizable hepatic cells floating in the pus. The cells were characteristic in shape, although they had undergone some degeneration.

In the *London Lancet* for November, 1877,

Dr. Fenwick has reported cases in which fragments of hepatic substance were found in the fluid withdrawn by aspiration from cases of abscess in the liver. Fenwick attaches prognostic value to the appearance of the pus under the microscope. If the cells are abundant and well defined, the occurrence of rapid breaking down of hepatic tissue is probable. If the liver-cells are absent or disintegrated, the prognosis is more favorable, indicating the resolution of the abscess.

The treatment of this case was directed upon general principles, save that the abscess in the left lobe was laid open by free incision and a drainage-tube was inserted. The same operation would have been practised on the abscess in the right lobe had the patient lived. For several days after the first abscess was opened, the improvement in general health was marked. Unfortunately, three days after the operation, a copious hemorrhage from the bowels occurred, and the system did not rally, the patient dying from syncope.

Dr. J. William White said that the most interesting point in the case had been the finding of hepatic cells in the discharge: if this actually occurred, the case is remarkable as being, so far as he knew, the only one on record in which individual liver-cells were found in the fluid from hepatic abscess. Upon recently looking over the literature of the subject, he had found that there had been no such instance reported. In reference to the case of Fenwick, already mentioned, he had examined the original paper and found that Fenwick had based his diagnosis and prognosis upon the discovery of fragments of liver-tissue, not of separate or isolated liver-cells as stated by the lecturer.

Dr. Bruen replied that the cells he had found were as characteristic as any he had ever seen, and that he had left a specimen with Dr. Formad, without stating what he had found; and the report of Dr. Formad fully confirmed his own observation.

He still regarded Fenwick's paper as corroborating his own views, for he failed to understand how fragments of liver-tissue could be recognized except by the appearance of the cells; and a fluid containing groups of cells would also be very apt to contain separate and single cells.

In reply to a question, he said that the spleen was normal in size, and he had noticed no change in its structure.

Dr. James Tyson said that he would scarcely expect to find liver-cells in the purulent discharge from a hepatic abscess. The abscess being lined with granulation-tissue, the so-called pyogenic membrane, the latter in its development would cause a molecular death of the liver-cells, and not a shedding of the entire cells. On the other hand, it is conceivable that in very rapidly disintegrating disease of the liver, fragments of liver-substance may appear in the discharges, which

fragments are resolvable into liver-cells, still retaining their distinctive appearance.

He had examined pus from a number of cases of supposed abscess of the liver, but in no instance had he ever recognized liver-cells. In like manner it is equally unlikely that cells from cancer of the kidney should be found in the urine, unless fragments of the cancer-substance descend through the ureter into the bladder. Such fragments may be large enough to enable us to recognize the distinctive features of carcinoma. He believed he had, in one instance at least, met structures under these circumstances in which he could recognize kidney-structure.

Dr. F. Woodbury inquired concerning the patient's mental condition. Since certain nervous symptoms, such as vertigo, irritable temper, depression of spirits, and so-called "hysterical" phenomena, have been brought forward very confidently as the results of abscess of the liver, and as furnishing us with evidence sufficiently conclusive to warrant the introduction of an aspirator, he would like to know if this case of demonstrated liver abscess presented these supposed typical symptoms.

Dr. Bruen said that the mental condition was clear and bright up to the last moments. In reply to Dr. Tyson, he could only reaffirm that the cells he had found were very different from pus-cells, and looked very much like liver-cells; but, not being willing to rest the case upon his own authority, he had Dr. Formad examine the specimen, who confirmed the speaker's opinion.

NEW TEST FOR ALBUMEN IN THE URINE.

Dr. Henry Leffmann exhibited a new method of testing for albumen by the use of glacial phosphoric acid in fine powder, a few grains of which are to be added to the fluid to be tested.

Dr. Neff inquired whether the reaction of the urine would have any effect upon the test.

Dr. Leffmann said that he did not think it would, because the test is used in sufficient quantity to overcome any alkalinity, and, as it diffuses very slowly, it would show the albumen at once.

TREATMENT OF GONORRHOEA.

Dr. John B. Roberts inquired concerning the general experience as regards the treatment of gonorrhœa, especially as to the curability of the disorder within five or six days. He remarked that he was inclined to believe, from his experience, that gonorrhœa was not a specific disease.

Dr. J. Wm. White, being called upon for his experience, said that he would not state that he had never cured a case of gonorrhœa in five or six days, but would say that such instances are rare. Typical cases with well-marked inflammatory tendencies are prob-

ably never cured in that time. As regards specificity, he had come to the conclusion that there is nothing specific about it; urethritis may be excited by any irritant, and varies in character with the nature of the irritant and with the idiosyncrasies of the patient. There is therefore no specific treatment that can be formulated to suit all cases. His general plan is to avoid injections altogether, or to use only hot water during the first few days or until after the *ardor urinæ* has subsided under the influence of alkaline and sedative diuretics; then to use a weak astringent solution, such as acetate of lead combined with watery extract of opium, subsequently employing a stronger astringent or often an injection containing an insoluble sediment. If the discharge continue a long time, the introduction of metallic bougies of large calibre is of great service. Very much, however, as regards the time required for cure will depend upon the patient's habits and personal peculiarities. If he has previously had an attack of long duration, it is probable that future ones will also be protracted.

Dr. Trautman inquired whether a gonorrhœa would "run itself" out if left untreated.

Dr. W. R. D. Blackwood said that he was perfectly satisfied that the pus secreted from the urethra in gonorrhœa, though not specific in the sense that syphilitic virus is (as protective against a second infection), is very different from ordinary pus; for instance, in its effects upon chronic conjunctivitis and pannus, in which it has been used by ophthalmologists for inoculation. As regards treatment, he had never seen a case cured in six days, but he has cured them in ten or twelve days. In the acute stage he gives a saline purge, and aconite or veratrum viride, and in a few days uses a simple injection of camphor water. He had also used later a solution of sulpho-carbolate of zinc, and had never known anything to give such good results (three grains to the ounce). In chronic gonorrhœa the introduction of large-sized instruments is of signal service. It is a good plan to instruct the patient when urinating to compress the meatus, so as to make the urine distend the urethra forcibly. Gonorrhœa is not strictly specific, for it can be contracted in a number of ways,—from a leucorrhœa, for instance.

Dr. Walker had seen good results from injections containing subnitrate of bismuth.

Dr. White said that the bismuth injections sometimes prove irritating and cause pain: he therefore never gives them until the later stages. In reply to the question, he said that gonorrhœa might in the course of time run itself out and undergo resolution like any other acute inflammation, but the patient would be more likely to suffer from its complications and sequelæ than if properly treated. In order to illustrate the fact that it is necessary to adapt the injection selected to the

character and stage of the particular case under treatment, and that it is irrational to expect uniform results from any one special formula, he mentioned that he had used the sulpho-carbolate of zinc very freely, and after a fair trial had abandoned it as having, in his hands, proved unsuccessful and in some cases hurtful.

Dr. H. Leffmann said that the subnitrate of bismuth, being crystalline, may prove irritating, but the subcarbonate is free from this objection.

Dr. Walker had never found it to give rise to pain or irritation.

Dr. O'Hara uses the subcarbonate in preference.

Dr. White said that he never ordered the subnitrate without cautioning the patient that if it gave pain it should be at once stopped, and particularly was careful to instruct him not to use it just before going to bed, as it was apt to give rise to chordee during the night. In reply to a question from Dr. Eskridge, he said that he had never used local blood-letting except in complications, such as prostatitis, etc.: in such cases leeches to the perineum are of great service.

Dr. Chas. H. Thomas believed that strong injections in the early stage of gonorrhœa tended to aggravate the inflammation and render it chronic. In his experience with stricture of the male urethra he had found a large proportion of its subjects to complain of the painful effects of the injections originally employed. These should never be strong enough to produce more than a momentary smarting. The prevalence of stricture is probably largely due to over-treatment. His usual practice in acute gonorrhœa is to order injections of hot water, and where the *ardor urinæ* is very marked he has used injections of Carron oil (*Lin. calcis*) with great relief. Subsequently he orders sulphate of zinc—but never stronger than two-grain solutions—or dilute lead-water with acetate of morphia frequently repeated. Chronic gonorrhœa is usually an indication of stricture,—it may be of large calibre,—so large, indeed, as to cause no perceptible impediment to the passage of urine. In all such cases exploration with the *bougie-à-boule* ought to be promptly made; and when localized narrowing of the urethral tube is found, treatment by the steel bougie should follow, even though the inflammation still be high. He had found this method as efficacious in chronic gonorrhœa as it is well known to be in gleet.

Dr. W. H. Parish spoke of neglected gonorrhœa in the female as being perhaps even more serious than in the male, on account of its producing inflammation of the endometrium or of even deeper-seated structures, as of the Fallopian tube, etc. Such inflammation is apt to become chronic, and to be productive of sterility often of an irremediable nature.

In the acute disease he used, *inter alia*,

lime-water and olive oil in equal parts with satisfactory results. He learned such use of this remedy from Prof. E. Wallace, as also that of cider vinegar, one to three ounces to a quart of water, in the subacute or chronic stage.

Dr. Woodbury, referring to Dr. Roberts's questions, said that he believed the key-note to successful treatment would not be struck until the importance of recognizing the effects both of gonorrhœa and of remedies upon the *temperament of the patient* is fully appreciated by the surgeon. He had been struck by the amenability to treatment of the disease when occurring among hospital patients, and men generally in the lower walks of life, as contrasted with its obstinacy in private patients. He had been impressed by the fact that a very different mode of treatment is required in a patient of sanguine temperament, nervous, excitable, and quick-witted, from that to be employed in the so-called lymphatic or bilious temperament, where all the nervous phenomena are more sluggish. In the first class of cases, he thought that the most satisfactory results can be obtained by rest; he would prefer to keep such a patient in bed for the first week, and to use cardiac sedatives, such as aconite, and saline purgatives, until the acute stage is reduced, then using very weak injections frequently repeated. In the other class, on the contrary, he would not hesitate to use astringent injections as strong as could be borne, of sulphate of zinc and acetate of lead. In a case recently, that of a coachman seen on the fourth day, such an injection had stopped the discharge entirely in three days. He was aware that objections had been made to strong injections early in the case, on the ground that they increased the inflammation and caused stricture, yet he was strongly of the opinion that a long-continued clap would be more likely to cause cicatricial deposit and contraction than a metallic astringent, even if the astringent did cause some irritation. He would prefer to substitute, in selected cases, a simple inflammation by a metallic astringent for that caused by a virulent animal discharge, although non-specific, as he believed gonorrhœa to be. At all events, he was certain that a gonorrhœa in proper subjects can be cured more quickly by attending to the points enumerated, than where a routine treatment is followed.

Dr. H. St. Clair Ash said that he had returned to the use of copaiba, after dropping it for a time, and had found it reliable: he recommended weak injections.

Dr. White said that he had not mentioned the use of copaiba and cubebs, although he usually resorts to them in the later stages, because he had not the time to systematically discuss the entire treatment, and believed that all were familiar with their employment.

Dr. Roberts said that he had been interested, edified, and encouraged. He had

asked the questions because he constantly heard of patients cured in three or four days; but he now learned that his success had not been far below that of the other members of the Society.

REVIEWS AND BOOK NOTICES.

TRANSACTIONS OF THE AMERICAN GYNÆCOLOGICAL SOCIETY. Vol. V., Year 1880. Boston, Houghton, Mifflin & Co., 1881.

With all the freshness and interest of an expected serial the yearly Gynæcological Society's Transactions come to us for 1880, filled, as usual, with well-written papers from well-known men, whose writing is done to some purpose and who enlighten every topic they dwell upon. The rarest paper in the volume is undoubtedly Dr. Engelmann's exhaustive study of "posture in labor," a paper covering over one hundred pages and illustrated with over forty wood-cuts. A careful perusal of it will, we trust, lead every one to modify somewhat pre-existing opinions as to what is the canon law of the lying-in-room, and perhaps hereafter in difficult or rather in prolonged labors a remembrance of this paper may lead the accoucheur to abandon the old fashions, and go back to those still older, with relief to himself and still more to his patient. Not that we would for a moment urge a return, as a rule, to any of the peculiar customs figured by Dr. Engelmann, or that we are at all desirous of seeing those in our charge clinging to parturient poles, like a Blackfoot squaw, or swinging by hooks and ropes, or occupying preposterous chairs, like photographers' victims, or even swinging gracefully in the obstetric hammock of the Orinoco Indian. We confess that the methods of modern civilization, the posture in bed,—on the side or back,—gains by contrast with even the ancient Persian method of sitting astride of chimneys, and is infinitely more æsthetic than mediæval midwifery, with its machinery, immodesty, and its ruthless subjection of the innocent husband to at least half the pains and more than half the indignities of childbirth. Woman may have been steadily rising to power and influence, but thank heaven that in at least one direction she has ceased to assert her power! Rather let the human race perish than return to such customs of the brave old days.

But Dr. Engelmann's paper is only one among many.

Dr. Battey's "What is the Proper Field for Battey's Operation?" is a curiosity of conservatism in regard to the operation which bears his name.

Dr. A. Reese Jackson's paper on "Uterine Massage," while it elicited but slight discussion, has already, we fancy, been passed upon by most minds in the profession. To

us it seems, as a method of relieving enlargement of the womb, both unphilosophical and objectionable in the extreme.

Dr. H. P. C. Wilson contributes a valuable paper on "Ovariectomy during Pregnancy."

Dr. James R. Chadwick writes upon "Hot Rectal Douche," and gives a number of interesting cases of uterine and associated rectal disease relieved by this method, and urges its use as a means of relief in back-ache, painful defecation, rectal pain, burning in abdomen, and pelvic effusion.

A very practical paper, by Dr. Henry F. Campbell, is on the "Prophylactic and Therapeutic Value of Quinine in Gynecologic and Obstetric Practice," and will tend much towards settling the doubts of the practitioner about the use of that invaluable drug.

The last paper in this section of the volume is by Dr. W. L. Richardson, on manual dilatation of the os uteri as a means of inducing premature labor.

Papers presented by the candidates elected to fellowship of the Society at its fifth annual meeting are represented at the close of the volume by Dr. C. D. Palmer's article on laparotomy and laparo-hysterotomy, their indications and statistics, and on fibroid tumors of the uterus.

The present volume will meet the same deserved welcome as its predecessors, and the series is already forming an encyclopædia of obstetric and gynecologic information which renders its possession almost indispensable to the practitioner.

E. W. W.

TEXT-BOOK OF MODERN MIDWIFERY. By RODNEY GLESAN, M.D. Philadelphia, Presley Blakiston, 1881.

Already the studious obstetrician is almost buried beneath the mass of manuals and text-books great and small, yet it seems from the author's preface that the great American Midwifery, like the great American novel, has hitherto been conspicuous by reason of its non-existence. For many years we have depended on the works of Hodge, Meigs, and Dewees, the more recent editions of which works have failed to embody the latest discoveries in this rapidly-growing branch of medical science. Rather than depend upon the works of foreign writers, numbers of students are heroically going without manuals and waiting eagerly for the great American Midwifery.

What a pity it is that there should be any prejudice against taking some standard work entire and reprinting it, with the name of each ambitious aspirant, in turn, as author!—for the new text-books differ so little from each other that half a dozen original ideas is a large number to allot to each. Yet they are all good. Dr. Glesan's work is good,—a little too colloquial, a little undignified in language here and there, but reliable, complete, conservative; and, whatever its fate may

be in the East, we are sure that those who in the far West make it their text-book will be trusting to no false or uncertain guide.

E. W. W.

GLEANINGS FROM EXCHANGES.

ORIGIN AND CURE OF SCROFULOUS NECK.

—At the recent International Medical Congress (*British Medical Journal*, vol. ii., 1881, p. 359) Dr. Clifford Allbutt read a paper on this subject, the purpose of which was to insist on the local causation and local development of many cases of scrofulous neck. Irritation of neighboring mucous membranes is the most common antecedent. The glandular engorgements are thus bubonic, and by caseous degeneration become themselves the foci of further like mischief.

A rapid and complete cure must generally be sought by surgical means. Free enucleation and excision of caseous deposits is essential. The softening mass under the jaw is usually a subcutaneous abscess, with more or less thickened walls, which depends upon infection from the deeper-lying caseous glands. With these it communicates by sinuous channels often very obscure. Upon the laying open of these channels and the clearing out of the inner foci, cure and future safety depend. In the discussion which followed, Mr. F. Treves recommended the thermocautery for the destruction of the diseased gland-tissue.

ALKALINE WATER AS A VEHICLE FOR THE ADMINISTRATION OF THE IODIDE AND BROMIDE OF POTASSIUM, ETC.—Dr. E. C. Seguin (*Archives of Medicine*, August, 1881) says that the dread of gastric derangement frequently prevents the free use of remedies which are of constant use and of unsurpassed efficacy,—viz., the iodide of potassium and various bromides, particularly those of potassium and sodium. While admitting that the salts in question may and do cause gastro-intestinal disorder, Dr. Seguin has very rarely observed this in his practice during the past three years. His plan of administration includes three almost equally important conditions: 1, the use of a simple aqueous solution of the salt; 2, its ingestion upon an empty stomach (fifteen to thirty minutes before food); 3, its very free dilution with an alkaline solution.

Dr. Seguin does not believe in the useless attempt to cover up or neutralize the taste of these drugs by infusions, syrups, etc. He uses a solution of iodide of potassium made by dissolving equal parts by weight of the salt and of water. There is a loss of bulk of about one-fifth in mixing the salt and water; in other words, one drop of this solution contains about four-fifths of a grain. A patient who takes one hundred drops of this solution takes only eighty grains of the salt, and not one hundred. Dr. Seguin directs his patients

to measure out their dose of iodide (or bromide) into a glass and add a liberal quantity of Vichy water (from one-half to a whole glassful). When the patient lives in a large town, the siphons of Vichy water so widely sold may be used. For patients living where the siphons of Vichy cannot be procured, or for persons who travel much, he directs the purchase of effervescent Vichy salts. A teaspoonful of salts in a glassful of cold water makes a sparkling glass of Vichy water, in which the medicine can be mixed.

Dr. Seguin, it should be said, prescribes his bromides according to a typical formula for convenience' sake. This is as follows:

R Potassii bromidi, ʒjss;
Aquæ, fʒvij. M.

A teaspoonful contains fifteen grains of the salt.

Another formula which he often employs is:

R Ammonii bromidi, ʒss;
Potassii bromidi, ʒj;
Aquæ, fʒvij. M.

Of this solution also a teaspoonful contains fifteen grains of the salts.

The advantage of prescribing the iodides and bromides in weak alkaline waters is not only that the danger of arousing gastro-intestinal irritation is reduced to a minimum, but the taste of the salts is considerably masked. Dr. Seguin can give in this way one hundred or more grains of the bromides daily, and the iodide up to an ounce daily, without gastric trouble ensuing. He also recommends this method of administering salicylate of sodium.

CARBOLIC POWDER.—A dry powder containing a definite quantity of carbohc acid, in which form the latter is most easily used as an antiseptic, is prepared, according to Bruns, as follows:

Sixty parts of rosin and 15 parts of stearin are melted together with a gentle heat, and when the mass has somewhat cooled, but is still liquid, 25 parts of carbohc acid are added. The mixture is then mixed with 700 to 800 parts of precipitated carbonate of calcium, and by careful trituration reduced to a uniform powder. The powder is applied by means of a sprinkling-box, which may be securely covered after use.

The powder may be applied either directly to wounds and sores, so as to produce an antiseptic scab, or it may be used for the extempore preparation of carbolized jute dressing by placing several layers of jute, each separately dusted over with the powder, upon each other.—*Berl. Klin. Woch.*; *New Remedies*.

NERVE-STRETCHING IN TORTICOLLIS, ETC.—Dr. F. A. Southam gives the following cases (*Lancet*, vol. ii., 1881, p. 369). The first was that of a woman of 53, who had suffered for twenty-three years with clonic spasm of the left sterno-mastoid and muscles of the left arm. No cause could be assigned for its onset, and the patient had in other respects always enjoyed good health. The deeper

muscles of the neck were also affected, the muscular spasm being incessant and the patient unable to keep her head or arm quiet for a single moment. She could not straighten her head.

Dr. Southam exposed the spinal accessory nerve in the posterior triangle of the neck and stretched it. Entire relief followed at first; but, as a final result, the patient could turn her head to the other side, but the spasm continued. Later another operation was performed and a portion of the nerve excised. The part which had been stretched was found to be atrophied; but the second operation had no effect on the patient's condition.

The second case was that of a boy of 14, suffering from clonic spasm of the right sterno-mastoid muscle. The symptoms differed in this case from those observed in the first, the spasm not being constantly present, but coming on in paroxysms, separated by very brief intervals of complete rest. In addition to the right sterno-mastoid, the deep muscles of the neck, back, and also those of both arms were affected with clonic spasm; locomotion was also somewhat impaired. Emotional disturbance increased the spasm.

The spinal accessory nerve was exposed and stretched, the operation being followed, as in the first case, by great relief, the torticollis only coming on at great intervals, especially when under the influence of mental excitement. This remission in all the symptoms continued about six weeks, when a relapse set in, so that, with the exception of freer movement of the head, almost all the old symptoms came back. Later, however, very decided improvement again took place, the spasm coming on at rare intervals.

In the third case—one of clonic spasm of the muscles of the left side of the face, in a woman of 59—the facial nerve was stretched. Paralysis at first ensued, but this had begun to disappear five weeks after the operation, and the spasm was entirely relieved. The duration of this last case had been two years.

MISCELLANY.

EXPERIMENTS made by Mr. Ryder on behalf of the United States Fish Commission, on the retardation of the hatching of shad's eggs, have reached results interesting from a physiological as well as a practical point of view. It has been found that when the eggs are placed upon wet canton-flannel trays in a refrigerator, and the temperature maintained at 54° F., instead of their hatching out in three or four days, about fifteen days are required. If the temperature is lowered to 45° F., the young embryos perish in twenty-four hours; at or about 50° F. they continue to grow, but become deformed, the notochord developing in segment-like masses, and finally the young fish being twisted all out of shape.

COMPARATIVE PROPORTION OF PHYSICIANS TO INHABITANTS IN DIFFERENT COUNTRIES.—The latest calculations give the following proportion of physicians to each ten thousand inhabitants in various countries:

France	2.91
Germany	3.21
England	6.06
Austria	6.10
Italy	6.10
Switzerland	7.06
United States	16.24

SIGNS OF INHERITED SYPHILIS.—As confirmatory signs Dr. Parrot relies upon cranio-tabes in all its forms, rickety bends of the long bones, splenic enlargement, and scars upon the buttocks and coccyx; while, says the *Medical Times and Gazette*, he does not appear to give any prominence to lesions of the eye and ear.

DR. THEOPHILUS PARVIN, of Indianapolis, has been elected to the chair of Obstetrics and Gynæcology in Louisville University. A better choice could not have been made, and we most heartily congratulate both college and professor.

NOTES AND QUERIES.

We are glad to be able to announce that a post-graduate course has been organized at the University of Pennsylvania for bedside and dispensary instruction. Two courses will be given annually. The first course will begin October 31, 1881; the second course will begin March, 1882. A certificate will be given to each person taking the course, which is to comprise instruction on the following branches by the gentlemen whose names are appended: Physical Diagnosis and Clinical Medicine, Prof. Pepper and Dr. Bruen; Nervous Diseases and Electro-Therapeutics, Prof. H. C. Wood; Dermatology, Prof. L. A. Duhring; Otolgoy, Prof. Geo. Strawbridge; Ophthalmology, Dr. S. D. Risley; Gynæcology, Dr. B. F. Baer; Laryngoscopy, Dr. C. Seiler.

OBITUARY.

DR. JOHN CONRAD, late apothecary to the Pennsylvania Hospital, who died on the 15th of last month, in the seventy-second year of his age, was in some respects a remarkable man. He held the office of apothecary to that institution for thirty-nine years, and during all that time his kindly face was so familiar to the *habitués* of the old hospital as to seem an essential part of it. In addition to his thorough knowledge of all that pertains to the art and science of the apothecary, Dr. Conrad was an accomplished botanist; and the beautiful and well-kept gardens and conservatories of the Hospital testified continually to the loving care constantly bestowed upon them. He was also a meteorologist in a certain way, and during his long period of service never failed in the due observation and record of the temperature, barometric pressure, and rainfall at stated times of the day. From his records were compiled those tables of comparative heat and cold published from time to time in the daily papers of Philadelphia before the advent of "Old Probabilities," and which used to be cut out and carefully preserved by old-fashioned people who desired to be weather-wise.

Dr. Conrad was an important integer in the "family" of the Hospital, of which himself, the steward, and the matron formed the permanent portion, while the successive resident physicians composed the temporary element, changing every few months, and composed of young men, sometimes of agreeable character, occasionally perverse and difficult to get along with. But with all Dr. Conrad was a favorite, and many are the pleasant reminiscences connected with his name in the minds of old Pennsylvania Hospital "residents." On his retirement, some ten years ago, the medical men who during his long service in the Hospital had met him and known him subscribed a handsome purse as a testimonial of their regard, and the managers of the Hospital offered him the hospitality of the institution, a certain room being set apart for him whenever he should choose to occupy it.

For some time after his retirement from duty at the Hospital, Dr. Conrad used not infrequently to visit the scene of his former labors; and his kindly face, as he enjoyed his pipe and paper in the evening, or a quiet game of whist with the steward and resident physicians on duty, is well remembered by those who were privileged to be connected with the Hospital during his time. The writer of this brief notice knew Dr. Conrad only as the other young men who were resident physicians during his term of service, but he desires to place upon record what must be in the minds of many of his contemporaries,—the appreciation of Dr. Conrad's cultivated and active intelligence, his faithful performance of duty during long years of service, and his pleasant, old-fashioned courtesy, his humor and goodness of heart.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM OCTOBER 16 TO OCTOBER 29, 1881.

BYRNE, C. C., MAJOR AND SURGEON.—Paragraph 2, F. O. 26, c. 2, from these Headquarters, relieving him from duty in this Department and directing him to proceed to his proper station, Benicia Barracks, Cal., is confirmed. S. O. 119, Department of Arizona, October 17, 1881.

HARTSUFF, A., MAJOR AND SURGEON.—Granted leave of absence for one month, with permission to apply for an extension of nine months, and authority to visit Europe. S. O. 214, Department of the Missouri, October 20, 1881.

GARDNER, W. H., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence on surgeon's certificate of disability granted him in S. O. 138, June 18, 1881, from A. G. O., extended three months on surgeon's certificate of disability. S. O. 239, A. G. O., October 31, 1881.

TREMAINE, W. S., CAPTAIN AND ASSISTANT-SURGEON.—The extension of his leave of absence on surgeon's certificate of disability granted him in S. O. 112, May 16, 1881, from A. G. O., still further extended three months on surgeon's certificate of disability. S. O. 238, A. G. O., October 20, 1881.

DICKSON, J. M., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 232, A. G. O., October 13, 1881.

CARVALLO, C., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month on surgeon's certificate of disability, with permission to go beyond the limits of the Department and to apply for five months' extension. S. O. 108, Department of the Platte, October 24, 1881.

PAULDING, H. O., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in the Department of the East, and to report in person to the Commanding General, Department of the Platte, for assignment to duty. S. O. 240, A. G. O., October 24, 1881.

ADAIR, G. W., CAPTAIN AND ASSISTANT-SURGEON.—Upon relinquishing unexpired portion of his present leave of absence, relieved from duty in Department of the East, and to report in person to Commanding General, Department of Dakota, for assignment to duty. S. O. 230, A. G. O., October 11, 1881.

BROWN, P. R., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and to report in person to the Commanding General, Department of Texas, for assignment to duty. S. O. 240, c. 2, A. G. O.

KILBOURNE, H. S., CAPTAIN AND ASSISTANT-SURGEON, FORT PORTER, N. Y.—Granted leave of absence for one month, with permission to apply for two months' extension. S. O. 182, Department of the East, October 11, 1881.

GARDNER, E. F., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months, with permission to apply for an extension of two months. S. O. 238, c. 2, A. G. O.

CORBUSIER, W. H., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in the Department of the Platte, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 240, c. 2, A. G. O.

DAVIS, W. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of Dakota, to proceed to Richmond, Va., and, on arrival, report by letter to the Surgeon-General. S. O. 240, c. 2, A. G. O.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 19, 1881.

ORIGINAL COMMUNICATIONS.

HYPNOTISM.

*Read before the Philadelphia County Medical Society,
October 12, 1881,*

BY CHARLES K. MILLS, M.D.,

Neurologist to the Philadelphia Hospital; Lecturer on Mental Diseases and Electro-Therapeutics in the University of Pennsylvania.

THE term *hypnotism*—from the Greek ὕπνος, “sleep”—was applied by Braid to a peculiar condition of the nervous system, induced by a fixed and abstracted attention of the mental and visual eye on one object not of an exciting nature. Under various names, such as mesmerism, animal magnetism, and electro-biology, the subject of hypnotism has, at several periods during the present century, attracted wide-spread popular and professional interest. The story of divination and witchcraft in all ages is in great part that of hypnotism. The monks who turned their eyes and thoughts to their navels, the devotees in the desert fixedly gazing at human skulls, the Mohammedan mystics falling into trance under the influence of the monotonous beating of drums, are probably all illustrations of the hypnotic state produced either by fixation of sight or of hearing.

I do not this evening purpose to take up the time with historical notes, however interesting they might be under some circumstances. A peculiar revival of interest in this subject has been witnessed during the last year or two. The fact that a physiologist as distinguished as Professor Heidenhain* has been led to investigate hypnotism carefully has done much to re-awaken general professional and scientific attention. He took up the subject after having witnessed early in 1880 the exhibitions of Mr. Hansen, a travelling mesmerist, well known in Northern Europe. At first he was very sceptical; but when Hansen, at Breslau, before an assemblage of physicians who had hitherto been absolute disbelievers, was able to perform his experiments on these very men, he entirely altered his opinion. In like manner, in

1841, Braid was led to investigate the pretensions of animal magnetism, or mesmerism, as a complete sceptic, from an anxiety to discover the source of fallacy in certain phenomena of which he had heard.

It was found by Charcot and his assistants at La Salpêtrière that many of the hystero-epileptics would enter into the hypnotic state. In Richer's work on *Hystero-Epilepsy* a full account of experiments on these cases is given. Hypnotism could be readily induced in the hystero-epileptics by various influences, such as, a bright light, sonorous vibrations, fixity of gaze, compression of the eyeballs, and passes. Under various names, such as catalepsy, suggestion lethargy, and somnambulism, Richer discusses many of the phenomena of hypnotism which are also treated of by Heidenhain, but sometimes under different designations.

The works on mesmerism, animal magnetism, hypnotism, etc., of course, contain full descriptions of the various “methods” employed by different operators. I will describe some of these methods, to bring the subject fully before those who have not given it any attention.

Braid's mode of hypnotizing was to hold any bright object about eight to fifteen inches from the eyes of the one being operated on, and at such position above the forehead as to produce the greatest possible strain upon the eyes and eyelids, and yet allow the patient to maintain a steady fixed stare. The pupils, according to Braid, will at first contract; but shortly they will begin to dilate, and after they have done so to a considerable extent, and have assumed a wavy motion, if the fore and middle fingers of the right hand, extended and a little separated, are carried from the object towards the eyes, most probably the eyelids will close involuntarily with a vibratory motion. If the operator does not succeed at first, he should try the same process again. As looking at a bright object until the eyelids closed of themselves, was sometimes followed by pain and slight conjunctivitis, Braid adopted the plan of closing the eyelids when the pupils began to dilate, which usually succeeded, provided the eyeballs were kept fixed.

Heidenhain's method is, in the main, the same as that used by Hansen, and does not differ materially from that of

*Animal Magnetism. Physiological Observations, by Rudolf Heidenhain, M.D. Translated by L. C. Woolbridge, B.Sc. Lond. London, C. Kegan Paul & Co., 1, Paternoster Square, 1880.

Braid. The individual is directed to gaze fixedly at a shining, faceted glass button for a few minutes, the visual axes being made to converge upward. After this fixation has been continued for six or eight minutes, the operator, with warm hands, strokes over the face, without immediately touching the surface, from the forehead to the chest, after each pass bringing the hands around in an arc to the forehead again. He either allows the eyelids to be closed or gently closes them.

In my own experiments I have chiefly used the method of Heidenhain, with slight modifications. I have sometimes succeeded in producing the hypnotic state by simply having the subject look fixedly at a faceted glass button attached by means of a large pin to the centre of a piece of black cloth. Sometimes I have found it necessary to use "stroking" or "passes" after the eyes have closed or have been closed. The passes will without doubt sometimes induce the hypnotic condition, when looking at the bright object has failed or has only partially succeeded.

Collusion and simulation, no doubt, sometimes play their parts in public exhibitions of so-called hypnotic phenomena. The exhibitors themselves are, I believe, sometimes deceived. It is, of course, all-important to separate the true from the false.

I am, however, convinced of the genuineness of the best authenticated of the phenomena of hypnotism,—those, for example, recorded by Heidenhain. An individual can be placed by another, or even put himself, into a state of hypnosis or nervous sleep. Certain symptoms belong to this state,—certain peculiar phenomena of motion, sensation, reflex action, speech, and of the mind.

I will bring before you this evening, and endeavor to hypnotize in your presence, two patients upon whom I have on several occasions successfully experimented. Before doing this, however, I will give brief accounts of the cases and of the results of my investigations.

The first patient is an unmarried white woman, 21 years old. Since she was four years of age she has been subject to epileptiform seizures. Her mother states that when she was this age she had at night a series of convulsions, which lasted several hours and left her partially paralyzed on the

right side. After this time, until she was fifteen, she had similar seizures several times a week. Her menses came on when she was between fourteen and fifteen, and since then her attacks have been less frequent and less severe, occurring once in two, three, or four weeks. She was admitted to the Philadelphia Hospital, and came under my care about one year ago. She has apparently been benefited by large doses of valerian and iron and moderate amounts of potassium bromide. During the last six months her seizures have averaged about one a month. She sometimes can tell that the fits are coming on by a cramp-like feeling in the right hand or foot, or in both. She complains of dizziness, both before and after the attacks. The convulsive movement is more marked upon the right side than upon the left. She is unconscious during the attack. The right upper extremity is somewhat smaller than the left. Sensibility is diminished on the right side.

This history would indicate that we have to deal in this case with a form of cortical epilepsy. The patient also at times evinces hysterical tendencies. She is capricious and excitable. She proved to be very susceptible to experiments in hypnotism. My usual plan of procedure was to have her gaze fixedly at the faceted glass button, so held as to cause convergence and upward deviation of the eyes. After a few minutes, the eyes usually became watery, the pupils at first contracted and then dilated, and the eyelids twitched. At this stage the eyes sometimes closed of themselves, but, if they did not, I gently closed them with the fingers of the unoccupied hand. After closure of the eyes, I generally found it necessary to resort to passes. Sometimes, however, she went into the hypnotic sleep without the passes.

I will give briefly the chief phenomena observed. As she passed into the state of hypnosis her breathing became more hurried, her pulse accelerated, and her temperature slightly elevated. I will refer again to these phenomena of respiration, pulse, and temperature. Her head inclined to one side. Invariably as the sleep began the left hand and forearm became affected with a tremor, which sometimes was very marked. She was now unable to open her eyes. Usually she could not open her mouth fully. On having her attempted to do this on one or two occasions

an increased flow of saliva was observed. Her face usually flushed. Ordering her to close her hand and bend her arm at the elbow, the limb at first would not retain this position. Stroking the arm, forearm, and hand, the limb would usually assume a position of flexion at the elbow and wrist, with partial closure of the fingers. This was particularly noticeable in the case of the left arm. This limb, indeed, after the patient had been experimented on several times, always tended to assume this position of contracture, very similar to that seen in some cases of hemiplegia from organic brain-disease, and in some forms of hysterical paralysis. It is a curious fact that the right arm—the right side being that on which the convulsions were most marked, and on which the partial paralysis and wasting were present—was not affected with the tremor and did not tend so markedly to assume the state of contracture. Elevating her arm to different heights and stroking it gently, it would remain after a time in any position in which it was placed, the muscles becoming more or less rigid. The tendon reflexes were quite marked.

The patient at command rose from her seat and slowly followed me as I walked backward; she also put her arms into different positions, stood still, walked forward or backward, sat down and got up again, etc. Her movements, however, were usually a little slow and awkward, and she sometimes tended to fall a little to one side.

She was tested with reference to sensibility by pinching and by thrusting needles into various points on her hands and arms, and exhibited no signs of pain, but on one or two occasions made a movement as if conscious of the fact that she was being touched. It will be remembered, however, that when she was not hypnotized, sensibility was not up to the normal standard, particularly on the right side. Analgesia was without doubt more absolute during the hypnotic sleep. During the experiments she seemed to be entirely unconscious of her ordinary surroundings, but complied promptly when directed by me to perform any action.

She was aroused readily by sharply commanding her to awake, at the same time blowing upon her face, or smartly tapping her on the face or limbs. On awakening, she was at first a little dazed and confused,

but in a few minutes was herself again. She did not remember what had taken place while she was hypnotized.

The second patient, a girl 17 years old, is a case of hysterical rhythmical chorea. She has been for nearly a year in the Hospital of the University of Pennsylvania. In the *Philadelphia Medical Times* for February 26, 1881, in a lecture by Prof. H. C. Wood, reported by myself, a detailed account of this case is given. I will therefore only recall a few prominent points. For four years she was affected with a constant rhythmical vibratory movement of both the upper and lower extremities, stopping only during sleep. Her forearms were held partly flexed on her arms, her thighs on her pelvis, and her legs on her thighs, the condition being one of tonic spasm or contracture. Since admission to the hospital she has greatly improved, the contractures and movements of the upper extremities having disappeared. The vibratory movement of the lower extremities still continues, although it is not so marked. Contractures are still present at the knees. Anæsthesia is marked in certain regions. She has the hysterical face and manner.

I have on numerous occasions hypnotized this patient,—sometimes by passes, sometimes by having her gaze at the glass button, sometimes by fixation of gaze on the crystal, followed by passes, and sometimes by simply placing a lead-pencil, a pen-holder, or some similar object between her eyes, and directing her to look at it steadily.

Without going into a detailed description of experiments, I will simply say that the chief phenomena observed in this case were diminution or loss of consciousness, increase in pulse and in respiration, highly-marked analgesia, automatism at command, increase of tremor and contracture, and neuro-muscular hyperexcitability.

The effect of hypnotization on pulse and respiration was very marked in both of these cases. Usually rapid breathing indicated to me the beginning of the condition of hypnosis, and the examination of the pulse would also show it to be accelerated. In the first case I made a few observations on temperature, and found it increased during the hypnotic sleep. The following are the results of observations made on three different occasions.

Before Hypnotizing.

Pulse.	Respiration.	Temperature.
82	22	98.9° F.
80	24	98.8° "
98	24	98.6° "

During the Hypnotic Sleep.

Pulse.	Respiration.	Temperature.
130	38	100° F.
120	36	100° "
122	32	99.6° "

Heidenhain attributes the almost constant increase of the rapidity of breathing in hypnosis to stimulation of the respiratory centre. "This increase," he says, "may be very considerable. I have seen the number of respirations in fifteen seconds rise from four to twelve. The pulse quickens in less degree, but still distinctly,—perhaps as a consequence of the quickened respiration."

Among the phenomena exhibited to some degree by the second patient when in the hypnotic state were those of neuro-muscular hyperexcitability. These phenomena have been investigated by Charcot and Richer, and by Bourneville, and the results of their researches have been published in various numbers of *Le Progrès Médical*, and in Richer's work on *Hystero-Epilepsy*. These observers found that pressure on a nerve-trunk would give rise to contractions in the muscles supplied by the branches of the nerve, and also that pressure on a muscle would cause it to contract. By simply pressing with a piece of wood, as a pen-holder or lead-pencil, on a muscle or a motor point, contractions could sometimes be produced similar to those brought about by local faradization. I have several times been able to produce such contractions in some of the muscles of the arm and forearm of this patient when hypnotized, by pressure on the nerve-trunks and muscles. In Charcot and Richer's experiments the contraction was usually intense, resisting forcible efforts to overcome it. In some instances it persisted after waking, constituting a more or less permanent contraction of the limbs. They found a special increased excitability of the muscles of the face, but the face, unlike the limbs, could not be thrown into a condition of permanent spasm. In the few experiments that I have performed, I have not been able to produce contractions in the muscles of the face of this patient, and the contractions in the arms and fore-

arms have not persisted after the disappearance of the hypnotic sleep. This neuro-muscular hyperexcitability is simply a phase of exaggerated reflex excitability. In the cases in which it can be demonstrated, the tendon reflexes are usually found to be greatly increased.

[The patients were then brought before the Society by Dr. Mills. The first was hypnotized without difficulty, and most of the phenomena referred to were exhibited. She passed into the hypnotic sleep with the tremor of the left arm, the hurried pulse and breathing, tonic contraction, analgesia, obedience to commands, etc. The second patient showed much excitement on bringing her into the room. Pulse, respiration, and temperature were decidedly augmented before hypnotization was attempted. She was, however, hypnotized with some difficulty, the increase in pulse and respiration becoming still more marked. The rhythmical tremor became more positive, the arms being slightly affected. Owing to the very great increase in rapidity of pulse and breathing, it was deemed best to arouse her in a very short time. No difficulty was experienced in awaking either patient.]

I have notes of successful experiments in hypnotism in four other cases,—two of hysteria major and two of monoplegia. Different depths and degrees of the hypnotic state were produced, in two of them the disappearance of consciousness being only partial. I made several unsuccessful attempts to hypnotize boys at the Pennsylvania Training-School for Feeble-Minded Children.

In some of my experiments I was assisted by Dr. J. M. Harrison, formerly resident physician at the Philadelphia Hospital. Dr. Harrison succeeded in effecting hypnosis in several cases besides those referred to in this paper.

These patients have enabled me to demonstrate some of the most important of the genuine phenomena of hypnotism or mesmerism. In some of the "unusual" and "extraordinary" phenomena which have been reported, I have but little faith. I will briefly call attention to a few other well-authenticated and highly interesting hypnotic manifestations, which have been described by others, but have not as yet been verified by myself. Hypnotized persons perform imitation movements. They are at a certain stage, according to



Heidenhain, in a similar though not exactly identical condition with that of a man walking down the street, deep in thought, who perceives the passers-by, but, owing to inattention, does not recognize them. He, however, manages effectually to get out of their way.

Speech-automatism, or imitation of speech, is another phenomenon. "Professor Berger has observed that, on applying pressure with the hand to the neck of a hypnotized person, in the region of the spinous processes of the lower cervical vertebræ, he can often be induced to repeat words spoken in his presence." "We learn," says Heidenhain in another place, "from the reports of Weinhold, from a treatise of Demarquay and Teulon, which is well worth reading, and also from another of Ch. Richet, that, under certain conditions, hypnotized people obey the command to carry out certain actions, and that it is possible to induce dreams in them by talking into their ears."

It was found by Heidenhain and Grützner that in some individuals unilateral hypnosis could be produced by acting only upon one side of the head and face. These same observers, with Professor Cohn, the distinguished ophthalmologist, made a series of remarkable observations with reference to disturbances of accommodation, and changes in the perception of colors in the eye of the cataleptic side. Analogous observations on hystero-epileptics have been reported by Charcot, Richer, Bourneville, and others.

Many hypotheses have been advanced to explain the phenomena of hypnotism, most of which have, in some way, involved the idea of the existence of a wonderful "fluid" or "force," by virtue of which the operator is enabled to impose his will upon his subject. These "force" and "fluid" theories have, however, had their day.

The view of Heidenhain is, I think, the most reasonable, although not free from objection. According to him, the cause of the phenomena of hypnotism lies in the inhibition of the activity of the ganglion-cells of the cerebral cortex; the inhibition being brought about by gentle prolonged stimulation of the sensory nerves of the face or of the auditory or optic nerve.

I will endeavor, with the assistance of Heidenhain, to make clear this hypothesis

to those who may not be familiar with the physiology of inhibition. Nerve-fibres, both sensory and motor, do not originate impulses: they simply carry them from periphery to centre, or from centre to periphery. Motor impulses originate in the motor ganglion-cells with which the motor nerves are connected. Sensory nerve-fibres convey impulses from the outside to ganglion-cells in the brain with which they are connected. These ganglion-cells are set into activity, and "consciousness is so influenced that perception results." The activity of both motor and sensory nerves can be arrested or inhibited by impressions conveyed to them by nerve-fibres. Let me recall here from Foster's Physiology one or two of the most familiar illustrations of inhibition. "The most striking instance of inhibition," says Foster, "is offered by the heart. If, when the heart is beating well and regularly, the pneumogastric be divided, and the peripheral portion be stimulated even for a very short time with an interrupted current, the heart is immediately brought to a stand-still. Its beats are arrested, it lies perfectly flaccid and motionless, and it is not till after some little time that it commences its beat. Here again it is usually said that the pneumogastric contains efferent cardio-inhibitory fibres, impulses passing along which from the medulla stop the automatic action of the cardiac ganglia; the respiratory inhibitory fibres of the same nerve are afferent,—i.e., impulses pass along them up to the medulla."

According to Heidenhain, the functional activity of motor ganglion-cells can be arrested through the interaction of certain nerves which are in connection with them; and not only the activity of ganglion-cells presiding over reflex and involuntary motion, but also of those which bring about voluntary motion.

That the activity of sensory nerve-cells may, under certain conditions, become inhibited is probably illustrated by the mode of action of the so-called æsthesiogenic agents, to which I have already directed attention in this Society. I need only refer again to the fact that metal plates, magnets, feeble electric currents, ice, etc., when applied to the surface of the body, in certain cases of hysteria in particular, have the power of producing anæsthesia, or of restoring sensibility to anæsthetic regions. Heidenhain alludes to the experi-

ments of Adamkiewicz, who found that stimulation of a certain cutaneous area—for example, of the arm—by a mustard poultice diminishes the sensibility of the corresponding part of the other arm. He believes that this can only be explained by supposing that the ganglion-cells which are in connection with the sensory fibres of the affected part are depressed in their activity by means of the sensory fibres of the irritated part of the skin.

Ferrier's views with reference to localization are helpful to the elucidation of Heidenhain's hypothesis. They are made use of by Heidenhain, and may be briefly stated as follows. Movements which are initiated as a consequence of perception are brought about through the agency of the cerebral cortex. Other movements, however, as a result of continued repetition, can be finally carried out without attention and without consciousness. Ferrier considers the corpora striata as the centres for the automatic organization of such movements, while he regards the thalami as intermediate ganglia through which sensory impressions pass on their way to the cerebral cortex. In the case of movements consciously carried out, the excitation passes through the thalami all the way to the cortex, within this from sensory to motor centres, and from the latter downward through the corpora striata to the *crura cerebri*. When movements are unconsciously carried out as the result of sensory impressions, the state of excitation is transmitted from the thalami direct to the corpora striata, instead of going by way of the cerebral cortex. "Without wishing to assert that Ferrier's special localization of the processes in question is correct," says Heidenhain, "I have decidedly the opinion in accordance with his general idea of the matter,—that the movements in hypnotized individuals are caused by the sensory impressions calling forth in some part of the brain situated below the cerebral cortex changes which act immediately as stimuli upon the motor apparatus; that hence the apparently voluntary movement of imitation is carried out, like a reflex action, independently of the will."

Has anything practical resulted or can anything practical be expected from studies in hypnotism? I would answer in the affirmative, although I am far from sharing the "moral inebriety" of Braid in

regard to the therapeutic victories to be achieved by hypnotism. Important operations have been performed painlessly upon patients in the hypnotic condition, but hypnotism has not as yet demonstrated its superiority over our ordinary anæsthetics. It has, I believe, a legitimate but limited rôle in the treatment of disease. The evidence would seem to be that certain forms of neuralgia, spasm, tremor, and palsy can be benefited by its very judicious use; but I cannot go into this question this evening.

It seems to me not improbable that studies in hypnotism may throw new light upon some important but obscure phenomena of nervous disease, so that aid will be given to differential diagnosis, and indirectly to prognosis and treatment. In the second case here reported the tremor of the legs was usually slightly increased, and the arms, quiet before hypnosis, would often become affected with a slight tremor while the patient was in the hypnotic state. In the first case, as the patient passed into the hypnotic condition, the left hand would begin to tremble, and, as the sleep deepened, the hand, forearm, and arm would become involved in a tremor similar to that observed in disseminated sclerosis. Have we not here a hint as to the nature of some of the cases of tremor that present themselves to us for diagnosis and treatment?

Supposing the hypothesis of Heidenhain to be correct, namely, that the cause of the phenomena of hypnotism lies in the inhibition of the activity of the ganglion-cells of the cerebral cortex, the explanation of these cases of tremor induced or increased by hypnotism would seem to be found in the removal of the restraint which the higher regions of the brain usually exercise over the lower centres both of the brain and cord. The tremor is probably due to an increased reflex irritability. Ordinarily the tremor is inhibited through the influence of cerebral activity. During hypnosis, however, this cerebral activity ceases. The tremor is sometimes local, because probably local areas of the cerebral cortex are solely or more deeply affected. Tremor is, indeed, in strictness, a form of spasm, and we have in these cases a phenomena comparable to the spasmodic contractions or contractures produced by Heidenhain in hypnotized individuals.

In a case of hystero-epilepsy recently

reported by me in the *American Journal of the Medical Sciences* (October, 1881), one of the most striking manifestations was a persistent tremor of the upper extremity. This tremor stayed with the patient for months, and led me at first to incline to the view that she was really suffering from some sclerotic affection of the brain or spinal cord. When, however, she began to improve, the tremor became less marked, and eventually, with the cessation of the violent spasmodic attacks, entirely disappeared, and it has never returned. It is possible to have a persistent tremor, simulating closely that seen in the gravest organic cerebro-spinal disease, but due to causes as temporary as those which bring about the transient conditions of hypnosis.

STATIC ELECTRICITY AS A GALACTAGOGUE.

BY WM. R. D. BLACKWOOD, M.D.,

Physician to St. Mary's Hospital.

THE question "Is there a true galactagogue in our *materia medica*?" has not yet been definitely answered in the affirmative beyond the possibility of contradiction. From time to time we have been favored with articles—good, bad, and indifferent—in the medical press, by authorities more or less reliable, in which the claims of numerous articles are set forth with much plausibility, greatly to the relief of the general practitioner, whose efforts to rescue the new-born from the perils and discomforts of bottle-feeding or "bringing up by hand" have not been successful even through the aid of the specialist now apparently on top of the struggling pile,—the obstetric expert and master-gynæcologist. A short experience only serves to disabuse his mind of the idea that relief has at last been found, and his patients are no better off than before the new drug was tried.

During the last twenty years I have, in common with all physicians who have been compelled to attend many lyings-in, had my share of trouble both in getting the mammary glands to work when they were sluggish and in keeping them at it when previous anæmia or post-partum hemorrhage and other accidents of labor had lowered the blood-pressure and consequently checked the free secretory action. Not a little blame is given the medical at-

tendant by intelligent people when he least deserves it under such circumstances; and should the infant succumb to a hot summer or choleraic diarrhoea whilst under a year or eighteen months old, he will be quite likely to lose caste not only with that family but with the neighbors as well. It is therefore desirable that renewed effort be made towards solving this knotty problem; and, with a desire to contribute my mite in this direction, I give the following cases briefly for what they are worth.

Mrs. D. T. was attended by myself in her second and third confinements, both of which were normal and approximately easy. She had experienced great difficulty in nursing her first and second infants from lack of breast-milk, for nothing that had been tried in the way of domestic or professional effort produced any good effect; and the children were with difficulty carried over their second summer. She was extremely anxious on approaching her third confinement that the former difficulty should, if possible, be averted, and to that end she was well fed and toned up with iron, bark, hypophosphites, and cod-liver oil in the latter period of gestation, in the hope that with enriched blood she would turn over a new leaf. She completed her labor with little trouble, and in two days thereafter a good flow of milk set in, much to her satisfaction. In a few days, however, the amount began to decrease, and by the close of the second week she had barely enough to serve the infant at night, the bottle being demanded during the day. My previous attempts towards remedying the difficulty left me a slim margin on which to work, but, having under treatment at the time a patient to whom I was applying static electricity for nervous disorder, I suggested to her the possibility of awakening the dormant glands by the use of this agent. She was treated by passing sparks through the breast daily, and a few applications only were required to prove the value of the procedure. In ten days after beginning treatment she had a plentiful flow, and it persisted till the weaning of the baby, which thrived very much better than did its predecessors under hand-feeding.

Mrs. R., confined for the fifth time in seven years, had always been troubled with a scanty supply of milk for the whole period of nursing, but the difficulty was more pronounced during the earlier weeks of lactation. The deficiency in her case was apparently due simply to torpor of the mammary glands, as she was a well-developed and healthy woman, with good appetite and regular habit. A long list of regular and domestic remedies had been exhausted in her case, without real benefit, and she willingly submitted herself to treatment by Franklinism, which was to her quite disagreeable, contrary to the general

rule. She reacted under the current decidedly from the first, and at the end of a month had a full supply of milk and a much firmer and larger mammary gland on both sides than before, although during the treatment at least three times more attention was paid to one side than to the other, merely as a matter of experiment. The flow was constant during the full nursing term, and the quality also of the milk was good.

Mrs. K. Y. was confined for the first time, and endured an extremely hard labor, which was terminated with forceps. Adherent placenta was present, its removal being difficult; and, as a matter of precaution, antiseptic intra-uterine injections of carbolyzed water were used twice daily for several days, to protect her from possible septic complication should any small fragment have been retained in the womb. She had a normal though protracted convalescence, with but little secretion of milk, and that of poor quality. I may be mistaken, but it was my opinion then—and I have had nothing happen since then to change it—that most, if not all, of the difficulty as to deficient lactation was attributable to absorption of more or less of the antiseptic, which then produced an unfavorable effect on secretion. In this connection it may be well to inquire if the habit so prevalent and so strongly urged by prominent obstetricians during this year, of systematic antiseptic washing out of the puerperal genitalia in normal labors, is not overdoing a good thing; and should not such action be confined strictly to cases where septic trouble has actually set in, or in which a judicious foresight justifies the precaution after a complicated labor in which the prophylaxis is obviously indicated? Without antecedent medication, Mrs. Y. was treated with static electricity, and with complete success. The richness of the milk was increased and its amount multiplied at once with a single application daily for two weeks, and the mother's health was notably benefited at the same time by the disappearance of a troublesome intercostal neuralgia which had annoyed her for two years previously.

My experience with static electricity as a galactagogue is confined to the three cases narrated, a small number, of course, on which to base conclusions. However desirable it may be to augment this list, it will be noticed that in the first two cases the lack of secretion was habitual, and that therapeutic assistance anterior to the electrical treatment was of but little, if any, value. As nothing else was done for the last case (Mrs. Y.) except electrization, the value of the method is not so definitely sustained in that instance, for a different practice might have succeeded; yet there is no doubt as to the good result being

directly attributable to the stimulus thus excited. The blood-supply to the mammary glands is ample, and disturbances of circulation and innervation in them are easily provoked by local manipulation or medication: hence electricity, which possesses so much value in peripheral disorders, might at once be indicated. With myself, however, neither galvanism nor faradism has been of any value as a galactagogue, although repeatedly tried; and if the extremely high tension of the static current may be made available in this direction, it will be well worth experimenting further to determine the point. In other papers* I have called attention to the great value of this form of electricity in therapeutics, but which has been neglected because of inherent defects in its management and production which were insurmountable until the modification of the Holtz machine, originated by Messrs. James W. Queen & Co., of this city, last year. The Toepler-Holtz, as obtainable from this firm, is reliable, powerful, and valuable as *completing* the electrical armament of the physician, and it furnishes effects not obtainable from dynamic electricity. As the static machine is not readily portable, the patient must be treated at the physician's office, which is a minor trouble. My attention was drawn to the possible value of electrostatic treatment in galactozemia from the use of it, with a success not attainable in any other manner in obstinate amenorrhœa; and in every instance in which I have employed the machine to overcome the suppression, whether from cold, fright, or functional disorder, not accounted for or evident, the applications, though strictly localized to the uterus and ovaries, were followed by evident excitement of the mammæ. The converse also is true as to sympathy between these organs and the genital apparatus when subjected to electrical treatment; for in a recent case of intercostal neuralgia which was treated by static applications, the menstrual flow was precipitated ten days before the proper time, and this has repeatedly occurred with patients under electrical treatment, especially when employing galvanism.

* Philadelphia Medical Times, October 9, 1880, and Proceedings of Philadelphia County Medical Society, vol. iii. p. 1; Medical and Surgical Reporter, March 12, 1881; New York Medical Record, May 21, 1881; Philadelphia Medical Times, October 22, 1881, and Proceedings of Philadelphia County Medical Society, vol. iv.

Few physicians possess static electrical machines, but my object in this brief paper is to urge a further trial of the method wherever it can be done, and I propose following the subject further myself. The manner of making the applications was to use the so-called static induced or secondary induced current from the outside foil of the condensers, the connection between them being broken. The conducting chains were attached to the jars at one end, the other being armed with a small circular electrode covered with chamois leather well moistened with salt water. One electrode was approximated to each breast closely, but short of actually touching. The intensity of the current was regulated by adjustment of the discharging rods, which were usually kept about half an inch apart: and at this distance the flow is steady and not painful; in fact, as compared with faradism, it is pleasant.

As already noted in the case of Mrs. R., more attention was paid to one side than to the other, not from any difference in the necessities of either, but simply as an experiment; and I shall, when opportunity again offers, confine the applications strictly to one gland, to learn how much can be gained as compared with symmetrical treatment. The Leyden jar, which is useful in amenorrhœa as discharging a larger *quantity* of electricity instantaneously than is had from the machine itself through ordinary electrodes, should not be used about the mammary region, for obvious reasons. If desirable, the spark can be sent through the clothing, should the patient be squeamish about disrobing, and no injury can be done to the finest or most costly fabrics by the most prolonged applications thus administered. It will be necessary, however, in thus acting, to use ball electrodes, dry and not covered. The conducting chains should be prevented from touching the ground, the patient, or the operator, and mine are encased in black rubber tubing.

No increase in the lochial discharge was produced at any time in either patient, but, on the contrary, in the case of Mrs. R. it was decidedly checked, which, as it had been somewhat free, was an advantage to her. To further test this point, I have applied the current to the mammary glands in a patient now under treatment for menorrhagic dysmenorrhœa, and the result showed, by a lessened flow, the truth

of the statement already made as to the sympathy existing between the uterus and these organs. Of course there is nothing novel in this observation, but the additional confirmation of the fact as thus obtained is worthy, I believe, of record.

In the treatment of galactozemia I have heretofore secured better results from the administration of good Alderney milk to the patient than through any other method. With this I combine four times daily syrup of the lactophosphate of lime in full doses, and where milk does not disagree decidedly it will sometimes act admirably. Should it constipate, ten or fifteen grains of sodium phosphate or a drachm of elixir of cascara sagrada will obviate this difficulty if taken before retiring.*

CONTRIBUTIONS TO THE STUDY OF THE TOXICOLOGY OF CARDIAC DEPRESSANTS.

II.—ACONITE.†

A Summary of Forty-one Cases of Poisoning, with an Appendix of an Analysis by Tucker of Fifty-three Cases.‡

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ADULTS 32, minors 7, unknown 2.
Males 20, females 21.

One inhaled the powder of the root—recovered; five ate the root—all died, one in $2\frac{1}{4}$ hours, one in 3 hours, one in 4 hours, and two in 5 hours; five took an unknown preparation—three recovered, two died, one in $1\frac{3}{4}$ hours, the other not mentioned; four took poison mixed with pickles—all recovered; one took one-quarter of a grain of the extract—recovered; two each took twenty minims of the tincture of the root—one died, the other recovered; one took twenty-five drops of the fluid extract—recovered; one took an unknown quantity of the tincture—died in $1\frac{1}{2}$ hours; one took fifteen minims of the tincture—recovered; in one some of the tincture was accidentally spilled on some ulcers—recovered; in another twelve-min-

* Since writing the above, a professional friend, to whom I had spoken of Mrs. R.'s case, has placed under my charge one of his patients for treatment, and, although she has as yet received only five applications, she states that the supply of milk is decidedly improved.

† I.—Carbolic Acid: a Summary of Fifty-six Cases of Poisoning, with a Study of its Physiological Action. Amer. Journ. Med. Sciences, October, 1881, pp. 441-467.

‡ New York Medical Journal, 1854, xii. p. 222.

im doses of the tincture in guaiacum were taken for three or four days, when the dose was doubled, the first of which caused immediate vomiting, and the second caused vomiting and the sudden induction of toxic symptoms—recovered; one took half a drachm of the tincture of the root—recovered; three each took a drachm of the tincture—one recovered, two died, one in 3 hours, the other unknown; four each took two drachms of the tincture—three recovered, one died in $5\frac{1}{2}$ hours; one took two drachms of a mixture of Fleming's tincture and tincture of capsicum—recovered; one took three drachms of Fleming's tincture—recovered; one took a swallow of the tincture—recovered; one took a half-ounce of the tincture in a liniment—recovered; one took a half-ounce of the tincture or more—recovered; one took an ounce of tincture—recovered; two each took an ounce of Fleming's tincture—one recovered, one died in $3\frac{1}{2}$ hours; one took two ounces of a mixture of equal parts of aconite liniment and olive oil—recovered; one took two ounces of Fleming's tincture—recovered.

Recovered 29, died 13. One died in thirty minutes; one in $1\frac{3}{4}$ hours; one in $2\frac{1}{4}$ hours; two in 3 hours; one in $3\frac{1}{2}$ hours; one in 4 hours; two in 5 hours; one in $5\frac{1}{2}$ hours; time not recorded in three cases. Average time of the occurrence of death from the time of the ingestion of the poison $3\frac{2}{3}$ hours.

Symptoms appeared in 7 immediately; in 8 within a half-hour; in 7 within 1 hour; in 2 in $1\frac{1}{2}$ hours; in 4 in 3 hours; in 1 in $3\frac{1}{2}$ hours; not stated 13.

Difficulty of swallowing appeared in 8, of articulation 5; articulation remained perfect 1; salivation 1; increase of the secretions generally 1; lachrymation 2; dryness of the throat 3; intense thirst 4; constriction of the throat 1; choking sensation 1; retching 5; nausea 3; vomiting 17; matters vomited smelt of camphor 1, of alcohol 1, of aconite 1; matters vomited had the appearance of a fluid resembling gravy with stringy mucus 1, a dark grumous liquid 2, bilious 2, mucous 2; purging 6; involuntary defecation 2; tympanites 1; diuresis 1; spit frothy saliva 3.

Pain, great 3, in stomach 9, severe 3, general lancinating 1, around the waist 1, down the spine 2, in the head 3, burning sensation in the stomach and bowels 6, in

the tongue and fauces 6; vertigo 6; tremulousness 2; comatose 1; stupor 1; consciousness remained perfect 11; consciousness lost 5; consciousness lost for a few seconds at a time or at intervals 3; sensibility diminished 3; numbness, general 10, in tongue 6, extremities 5, back 1, face 5, arms and hands 4; tingling 15; pricking, a few; sensation of some part of the body being swelled 3; tinnitus aurium 1; impaired sense of hearing 1; desire to sleep 8; delirious 3; semi-delirious 2; groaning 1; sighing 1; faintness 7; attacks of depression 2; great depression 10; restlessness 8; rigors 1; aphonia 1.

Convulsions, tetanic 1, general 3, slight 2, facial 5, convulsive movements 8. Trismus 2. Paralysis, lower jaw 1, lower extremities 1. Hands clinched 1. Staggering 4; muscular inertia or relaxation 11; collapse 8.

Respiration, labored 8, slow 5, short and hurried 2, quiet and regular 2, dyspnoic 1, hurried and labored 1, slightly stertorous 1, quick and sighing 1.

Pulse, feeble or imperceptible 11, slow and feeble 9, slow, feeble, and irregular 7, feeble and irregular 5, slow 1, rapid and tumultuous 1, rapid, feeble, and irregular 1, slow followed by frequency and irregularity 1.

Temperature, lowered 3, diminution followed by a rise 1.

Pupils, dilated 17, slightly contracted 1, alternate contraction and dilatation 1, contraction followed by dilatation 1, not dilated 1, insensible to light 3. Amblyopia 5; diplopia 1. Conjunctiva injected 1. Eyes, staring 2, fixed, sparkling, and brilliant 2. Lachrymation 2.

Perspiration, profuse 2, cold and clammy 18. Cold, extremities 14, general 4. Cold along the spine 1, lividity 3.

Countenance, pale 12, anxious 3, pinched 2, livid 2, flushed 2, hypochondriacal 1, depressed 1, heavy 1, dusky 1, expression of agony 2, calm 1, haggard 1, shrunk 1, expressionless 1.

Among the symptoms of aconite-poisoning not particularly specified in the above analysis are many that are either curious or of special interest. In some of the cases there was very marked jactitation, the head being constantly tossed about, or some portion of the body being kept constantly moving, or the patients constantly throwing themselves about violently, etc. The eyes, in one case, were described as

feeling as if they would drop out; in others, certain portions of the body felt as if swollen, and even many times the natural size, the head especially being complained of. In one instance a sensation of tightness across the eyes and nose was present, with a feeling in the head as if distorted by the pressure of a vice. Heaviness of the feet and legs, in all probability similar to the sensation which occurs in haschish and certain other forms of poisoning, was also noted; and in one case the sensation was described as though the legs were going away from him. In another case the teeth felt as if loose, and in another peculiar sensations about the roots of the teeth appearing two days after the ingestion of the poison were noted. Aphonia continued in one case for over two weeks. Delightful dreams in several cases are recorded, and in one the dreams were said to be "horrid." An hysterical condition was developed in one, and in another a peculiar cry was now and then uttered. A dreadful sensation in the pit of the stomach has also been recorded.

In several cases the great danger of raising the patient from the recumbent position was forcibly illustrated in the alarming symptoms, and even fatal results, which followed such indiscretion. The respiration and pulse were sometimes reduced to an extraordinary degree, the former to five or six a minute, and the latter as low as twenty a minute, and the patient recovered. In one case the temperature was lowered 14.2° F. (!) below the normal, and the patient recovered.*

Analysis of twelve autopsies.

Face and skin pale 2; rigor well marked 5; no rigor in the upper extremities 1; general flaccidity of muscles 1; erection of penis and ejection of seminal fluid 1.

Heart.—Normal 1; empty 1; flaccid 2. Right ventricle, flaccid 2; nearly empty 1; contains blood 3; distended with blood 4. Left ventricle, contained blood 2; empty 3; full 1; contracted 5,—firmly 2. Blood, dark and fluid 6; slightly coagulated 1; loose black clots in heart 1.

Lungs.—Emphysematous 2; infiltrated 2; lower lobes congested 1; dependent parts congested 2; dependent portions somewhat œdematous 1; healthy 1; slightly congested 1; contained sero-sanguinolent fluid 1; black over the entire structure 1;

friable and no induration 1; mucous surface of bronchi congested 1. Pleura healthy 1.

Brain.—Vessels did not appear congested 3; vessels full of blood 2. Dura mater, vessels congested 3; vessels natural 1; adherent 1. Arachnoid, contained a large quantity of fluid 1; contained a slightly excessive amount of fluid 1; contained a normal amount of fluid 3; congested 1. Brain-substance, congested 1; normal 8.

Gastro-Intestinal Tract and Glandular System.—Tongue, redder than natural 1. Pharynx and fauces, slightly congested 1, violet tinge 1. Œsophagus, congested 3, having a violet tinge 1. Stomach, empty 1, contained grumous fluid 2, contained blood and mucus 2, contained a brownish fluid 1, contained a viscid reddish fluid 3, contained a gray thick fluid 1; surface of mucous membrane congested, and sometimes noted as possessing a bright-scarlet hue, 7, surface softened 2, surface highly congested 3, patches of congestion 3, surface chocolate color 1, reddish-brown patches at cardia 1; action confined principally to the cardiac end or greater curvature 5; ecchymotic 5. Duodenum, mucous membrane, scarlet or pale-rose color 3, congested 3, ecchymotic 1; duodenum contained a reddish fluid 3. Small intestine, bright-scarlet color in upper portion, which gradually becomes darker, blackish or brownish as the jejunum is reached, 2. Spleen, congested 3. Liver, congested 2, healthy 1, enlarged 1, borders colored dark brown 1. Kidneys, congested 3, intensely congested 1; rather softer than usual 1. Viscera, healthy 1; generally congested 1.

Treatment.—The general plan of treatment pursued in a vast majority of the cases was the evacuation of the stomach, the administration of stimulants in liberal amounts, and the application of external stimuli.

Opium or its preparations were used in four cases, all of which terminated favorably. In one case the quantity administered is not stated; in one, half-grain doses of morphine sulphate were given; in another, three hypodermic injections of fifteen minims each were practised in a short time; in the fourth case, five and a half drachms of laudanum were administered in four hours, without inducing any symptoms of narcotism.

* Jones: British Medical Journal, 1877, p. 258.

Digitalis was administered, in connection with other stimulants, in two cases. One died; the one which recovered, and which had taken an ounce of Fleming's tincture, was given three hypodermic injections of twenty minims each within an hour.

Amyl nitrite was used in one case with immediate relief to the spasms, the pulse became stronger, and the deadly pallor of the face disappeared. This substance, as I have already pointed out,* is a powerful cardiac stimulant, and promises such good results in this form of poisoning as to deserve a fair and extended trial.

Tincture of nux vomica was used in one case in three-drop doses every twenty minutes, and, as the practitioner stated, with marked benefit to the heart and respiration. Strychnine has also been employed.

BIBLIOGRAPHY.—*New York Jour. Med.*, 1849, ii. p. 191; *Phila. Med. Times*, Nov. 1872, p. 74; *Brit. Med. Jour.*, 1879, p. 122; *ibid.*, 1859, p. 339; *ibid.*, 1861, ii. p. 360; *ibid.*, 1872, ii. p. 579; *ibid.*, 1872, ii. p. 682; *ibid.*, 1877, ii. p. 258; *Med. Times and Gaz.*, 1857, i. p. 228; *ibid.*, 1863, ii. pp. 518, 541, 597; *ibid.*, 1869, ii. p. 709; *Lancet*, ii., 1851, p. 56; *ibid.*, 1855, ii. p. 467; *ibid.*, 1856, i. p. 369; *ibid.*, 1856, ii. p. 100; *ibid.*, 1859, ii. p. 561; *ibid.*, 1861, ii. p. 170; *ibid.*, 1866, ii. p. 34; *ibid.*, 1867, i. p. 238; *ibid.*, 1878, ii. p. 917; *Boston Med. and Surg. Jour.*, 1854, i. p. 289; *Dublin Quar. Jour. Med. Sciences*, 1857, xlv. p. 224; *Phila. Med. and Surg. Rep.*, 1876, xxxiv. p. 125; *ibid.*, 1869, xx. p. 159; *ibid.*, 1868, xix. p. 347; *ibid.*, 1862, viii. p. 362; *ibid.*, 1860, iii. p. 551; *Trans. Med. Soc. New Jersey*, 1873, p. 192; *ibid.*, 1874, p. 185; *Edinburgh Med. Jour.*, 1873, xviii. p. 1004; *New York Med. Gaz.*, 1868, i. p. 322; *Trans. Path. Soc. of London*, x., 1858–59, p. 285; *New York Med. Rec.*, 1879, p. 128; *Guy's Hosp. Rep.*, 1864, x. p. 187; *Boston Med. and Surg. Jour.*, 1861, ii. p. 155; *ibid.*, 1870, ii. p. 41; *Cincinnati Lancet and Obs.*, 1875, xviii. p. 427.

A large number of cases have been found in these and other journals besides the above, but in which some other active poison was taken at the same time, and therefore might materially modify or altogether mask the symptoms produced by the aconite.

Appendix.

The following is an analysis of 53 cases made by Tucker. Adults 47; children, 6. Males 24; females 12; unknown 17.

Four each took three drachms of the root; two recovered, two died. One took one and

one-half roots; died. One took a half of a root; recovered. Two each took a small piece of the root; one recovered, one died. Three took an unknown quantity of the root; all died. Six took a quantity of the leaves; three recovered, three died. One took the leaves and flowers; died. Twelve each took two and one-half ounces of the fresh juice; nine recovered, three died. Two each took one-half ounce of the saturated tincture; one recovered, one died. One took one-half ounce of the tincture of the root; died. One took a mouthful of the tincture; recovered. One took fifteen minims of the strong tincture; recovered. One took one and one-half ounces of the tincture (Par. Codex); recovered. Three each took one ounce of tincture of the root; one recovered, two died. One took twenty-five minims in twenty minims of tincture of belladonna and one drachm of tincture of musk; died. Two each took one drachm of the saturated tincture; both recovered. Five took an unspecified amount of the tincture of the root; two recovered, three died. One took two ounces of the decoction; died. Three each took five grains of the fresh extract; two recovered, one died. One took two and one-half grains of aconitin; recovered. One took eighty minims of the tincture in ten doses; died. One took an ounce of Fleming's tincture; died.

Recovered 27; died 25. Two died in a short time, one in one and one-quarter hours, eight in two hours, one in two and one-quarter hours, one in two and one-half hours, four in three hours, one in a few hours, one in five hours, one in seven hours, one in six days.

Symptoms occurred in three immediately, all recovered; shortly after in ten, five recovered, five died; in a quarter of an hour in four, three recovered, one died; in two hours in one, died. No time given in thirty-four.

Tingling and pricking or burning sensations 26, not mentioned 27; vomiting 28, early 20, not until emetics were given 5; no emesis except by emetics 8; violent vomiting 11, copious 4, slight 1; matter ejected green, livid, and bilious 13; no nausea 1; diarrhoea a few, purging 12; pupils dilated 18 (early 15, late 3), contracted 2 (both early), natural 1, not stated 31; restlessness 16; surface cold and sweating 30; respiration short, hurried, and labored 20, stertorous 1, not noticed 31; severe pains in abdomen 19; copious flow of saliva 1; dysphagia 3; inability to walk 3; vision dim 5, totally blind 1, almost blind 1, intellect entire 12, stupor or unconsciousness 5, not mentioned 35; paralysis 3, no paralysis of either sensation or motion 1; idiotic 1; apoplectic 1; speechless 1; difficulty of articulation 1; speech thick 1; staggering 2; convulsions general 7; trismus 4; twitchings of the facial muscles 1; excessive trembling 1; tremors 3; cramps 14; shivering 2; great weakness 15; headache and vertigo

* New York Medical Journal, July, 1881.

14 (slight in 1, violent in 13); delirium 4 (slight in 2, violent in 2); occasional incoherence 2; no delirium or sleeplessness 2; pulse frequent, weak, and often imperceptible, 16, slow and irregular 4; lips blue 2; countenance livid 1; nails livid 12; foaming at the mouth 2; sense of swelling of the tongue or face 13, of the limbs 1; hands clinched 2; syncope 3; tenderness of epigastrium 7; eyes glaring and protruded 1; fixed 1.

Analysis of eleven autopsies.—Lungs congested 7; vessels of brain engorged 5; vessels of pia mater highly congested 3; mucous membrane of stomach red 6; patches of dark color on its surface 3; intestines congested in patches or otherwise 6; rectum and œsophagus very red 3; serous effusion under arachnoid 4, at base of brain 3; abdomen swollen 2; bowels filled with air 2; stomach empty 2, contained gray-colored liquid in small quantity 3; filled with gas 3; right side of heart filled with dark blood 1; liver, spleen, and kidneys engorged 1, healthy 1; blood unusually fluid 1.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINICAL SERVICE OF WILLIAM PEPPER, M.D.,
PROFESSOR OF CLINICAL MEDICINE IN THE
UNIVERSITY OF PENNSYLVANIA.

Reported by WILLIAM H. MORRISON, M.D.

HEMORRHAGIC DIATHESIS.

THE first case to which I shall ask your attention to-day is this man, sent to us from Lancaster County, Pennsylvania. He is by occupation a farmer. He has been a sober and moderate sort of fellow in his habits, and so does not attribute the present trouble to his own faults. His mother died of spinal disease. During her life she had frequent attacks of epistaxis. His father is living and healthy. One sister has died from unknown causes. During her life she also had numerous attacks of epistaxis. His mother's brother has numerous hemorrhages, as also do some of her sisters. The patient's grandmother and great-grandmother on the mother's side were likewise subject to the repeated occurrence of "nose-bleed." He has had three children, one of whom, a boy, suffers from hemorrhages. He has had the ordinary diseases of childhood. In the first place, he noticed attacks of epistaxis which were difficult to control. The extraction of a tooth was followed by profuse bleeding. Any little cut or abrasion bled freely. Four years ago he had a hemorrhage from the lower lip without any apparent cause.

His present condition is as follows. He is 42 years of age, and is exceedingly unhealthy in appearance, being anæmic, cachectic, sallow, and with an earthy hue of the skin. The appetite and digestion are both good; the extremities are cold; the pulse is small and rather frequent,—from 85 to 90 per minute. On examining the heart, I find a very distinct, soft, blowing, systolic murmur at the base of it. There is an unusually strong, continuous, musical, venous hum in the jugular veins. I have had the number of blood-corpuscles counted by my assistant, and the following is the report: "The blood is pale; there are 2,660,000 red globules to the cubic millimetre, and one white globule to every five hundred and thirty red ones." There is, then, a reduction of about one-half in the number of the red corpuscles. If the red were normal in amount, we should have but one white globule to every thousand of the red. The white globules are reduced eighty per cent., while the red are reduced fifty per cent. The eyes have also been examined. There has been found slight hypermetropic astigmatism in each eye, but no pulsation of the veins, no hemorrhages of any kind, and no lesions in the eye-ground. The color of the blood in the veins, as well as in the arteries, is very pale.

The specific gravity of the urine is 1010. It contains a small amount of bladder-epithelium, and a few amorphous phosphates, but no albumen or tube-casts. There is no alteration in the size of the liver or spleen, and no abnormal condition of the other abdominal organs is demonstrable.

This then brings the case before us clearly as one of hemorrhagic diathesis, or, technically speaking, hæmophilia. This is a rather rare disease. It is, as a rule, an inherited disease, and is transmitted from parent to child, from generation to generation. In this case it is derived from the maternal side. More commonly, however, it is from the paternal side of the family. The source of the hemorrhage varies in different cases. It is generally observed, in the first place, that slight wounds bleed freely. In one case, a school-boy gets an ordinary birching at school, and comes home with such terrible welts and bloody wheals as to lead to the suspicion that he has been seriously injured. A tooth is extracted, and there is serious hemorrhage. Such are the ways in which the

hemorrhagic diathesis is recognized in the earlier years.

The disease gradually becomes more marked, and the source of the hemorrhages is apt to be confined to some one particular surface. It is perhaps strange that women do not bleed as profusely at their menstrual periods as we should expect: still there is a tendency to menorrhagia and metrorrhagia. The most common sources of the hemorrhage are the nasal mucous membrane, the gums, and the mucous membrane of the bowels. It occasionally takes place from moles or some slight irritation about the skin, or from old scars which have healed. Bleeding may also occur from the respiratory mucous membrane. The amount of blood lost is sometimes very great, occasionally proving fatal. It runs in a free stream, without any tendency to coagulation, and seems finally to be arrested not so much from the use of styptics as from sheer exhaustion of the blood-supply. In other cases the hemorrhages never become alarming.

Our patient has had numerous hemorrhages, sometimes from wounds and sometimes without apparent cause. During the past two years he has had bleeding from the nose once every twenty-four hours.

The cause of the hemorrhagic diathesis is difficult to discover. None of the explanations which have been given appear to be entirely satisfactory. It has been supposed that there is some congenital defect in the structure of the walls of the capillary system which interferes with their contractility. It has also been supposed that there is an undue development of the elastic tissue of the arteries, thus keeping up an increased *vis a tergo* and not allowing the smaller vessels to contract. It would be in accordance with the hereditary character of this disease that we should find it associated with some distinct anatomical peculiarity, for we know that anatomical peculiarities are very apt to be transmitted from generation to generation. It has been thought to depend upon some peculiarity in the crasis of the blood, a deficiency of fibrin; but examinations of the blood have not sustained this view.

I do not know that there has ever been an examination made in other cases of this disease to determine the number of the corpuscles. I regard the profound anæmia in the present instance as a result of

the hemorrhage, and not as its cause. A great reduction in the number of red blood-globules is seen in most anæmias, but the white are usually up to the standard, and sometimes increased.

We may say that the hemorrhagic diathesis is probably due either to some anatomical defect in the blood-making organs, by which the normal crasis of the blood is not maintained (though this has not been demonstrated), or else it depends upon some peculiarity in the structure of the smaller vessels, by which their contractility is impaired.

In the great majority of cases there is, I think, some local cause to start the bleeding. This is a matter of great importance as bearing on the preventive treatment. Careful examination of this man's nasal cavities has revealed an ulcer situated high up on the left side. When I saw him yesterday, I was certain that we should find some local cause which kept up this hemorrhage from the nasal mucous membrane; and in this opinion we have not been mistaken. In other cases that I have studied, I have, on careful examination, found some local cause for the hemorrhage. Whether or not this is absolutely true of all cases, I cannot say. If in a case of this kind hemorrhage occurs and recurs from any one surface, we should examine that part most carefully, and if any local lesion should be found, it must be removed. Thus we can prevent the hemorrhages, although we may not be able to remove the tendency to bleeding.

Is there any way by which we can remove this tendency? If it is due to any anatomical peculiarity, it is only by paying the greatest attention to the marriages of such people that we can hope to obliterate it. No member of a family in which this proneness to hemorrhage exists should marry within the slightest degree of consanguinity.

It is doubtful whether the alteratives—arsenic, mercury, iodine, and iron—have any effect in this disease. In cases where there is a profound alteration in the blood-making glands, arsenic is perhaps the best drug that can be used; and it is this remedy that I shall recommend in this case.

The immediate treatment of the hemorrhages is the ordinary hemostatic treatment, but you will often be disappointed to find that it does not give the usual results. You may apply alum, and then Monsel's salt,

without avail; then pressure; but as soon as the pressure is removed the bleeding returns. The most useful means for controlling the hemorrhage are the internal use of ergot in large doses, and the local application of the actual cautery. Therefore, after we have localized the ulceration, we should, if it is accessible, apply the actual cautery to it. Hemorrhage following the application of the cautery is rare. Separation of the slough is not, as a rule, followed by bleeding. Where we cannot apply the cautery, we are obliged to make strong styptic applications.

If we can stop these hemorrhages, the man will fatten, make more blood, and lose his anæmic appearance. I might say here that the murmurs which I heard at the base of the heart and over the jugulars are simply the result of the profound anæmia.

INTERNAL HYDROCEPHALUS.

The next case, gentlemen, is one of internal hydrocephalus. The mother states that both she and her husband are healthy, and that she did not have any accident whilst carrying the child. The child is 20 months old. At the age of four months its head began to enlarge, and this has steadily progressed until the present time. At the same time the eyes assumed the unnatural look you now see. It has had spasms from time to time. It has a poor appetite, and is rather subject to looseness of the bowels.

Chronic hydrocephalus, or water on the brain, properly so called (for acute hydrocephalus, acute water on the brain, or water-stroke of the German writers, is really tubercular meningitis; the word hydrocephalus should be limited to chronic cases), is divided into two forms, according to the position of the liquid. The water may be between the brain and the cranium, occupying the cavity of the arachnoid, constituting external hydrocephalus, or it may occupy the cavity of the ventricles, constituting internal hydrocephalus. In the latter form the brain may become enormously distended, the cortex being thinned out until it is no thicker than my finger, and sometimes no thicker than a folded handkerchief.

External hydrocephalus is the result of some chronic inflammation of the membranes of the brain, and very commonly is due to an injury which causes an effusion of blood and serum. This sets on foot an

irritative process which leads to the effusion of liquid. You will therefore find that in external hydrocephalus the general health is, in the first place, not so much affected as in the internal form. In the latter form you do not have the history that the child was healthy up to a certain time, and then, after a sudden attack or after some injury, the symptoms of hydrocephalus developed.

External hydrocephalus is vastly more favorable in its results than the internal form. Absorption may sometimes be caused by internal remedies. Occasionally aspiration will effect a cure. The only case in which I have seen aspiration of the brain succeed was undoubtedly one of external hydrocephalus. The child had a very large head. The operation, several times repeated, was followed by a perfect cure.

Internal hydrocephalus begins very insidiously, and often with convulsive attacks soon after birth. The head begins to enlarge until it assumes the characteristic appearance of the hydrocephalic skull. The general health may be well preserved. I have patients now under my care whom I have been watching for six, eight, ten years, and in whom the appetite, digestion, spirits, and intellect have been well retained. In other cases the great ganglia of the brain suffer, and we have continued evidences of irritation in the convulsions and the appearance of paralysis of the arms and legs. If the child has walked, it loses the power of doing so; it wastes away, passes into a state of marasmus, and the unhappy little life is soon terminated.

In such cases recovery is exceedingly difficult to imagine.

In advanced cases there is no difficulty in recognizing hydrocephalus. The appearance of the child is perfectly characteristic. In the early stages there is often room for considerable hesitation. Particularly is this the case in distinguishing between the enlarging head of hydrocephalus and the large head of rickets. A little closeness of attention will, however, enable the distinction to be made. In rickets the head is square, there are ridges of bone along the sutures, and there are other evidences of rickets about the child. In hydrocephalus the fontanels remain open for a long time. In this child the anterior fontanel is six inches across and three inches in its longitudinal axis; the other fontanels and sutures are all closed. The

head becomes globular. It assumes a most disproportionate appearance when contrasted with the diminutive features of the child. This begins to be evident at a very early stage of the disease. The orbital plate of the frontal bone is pressed down by the effusion, and becomes deflected to a more oblique or perpendicular position. As this is done, the globe of the eye is pushed downward and forward, giving a peculiar and characteristic appearance; and this may be distinguished at a very early period of the case. The persistence of the sutures and fontanels, the globular shape of the head, the depression of the orbital plates, the disproportion between the size of the head and face, and the absence of the evidences of rickets in other parts of the body, will render the diagnosis of hydrocephalus easy.

The treatment of a case like this is limited to endeavoring to promote nutrition and allaying irritation of the brain. From time to time feverish spells, with perhaps convulsions and other symptoms of increased irritation of the brain, will occur, after which there will be increased enlargement of the head. At such times you will do well to give quinia, calomel, and opium. In the interval you will use good, nutritious food, cod-liver oil with the hypophosphite of lime, iodide of iron, and perhaps iodide of potassium.

It might be thought that it would be well to try aspiration in a case like this. A year or two ago I aspirated a case of internal hydrocephalus in this hospital. The child died in a few hours. At the autopsy I found the whole brain in a pulpy state and many of the organs infiltrated with miliary tubercles. I should discourage the operation in all cases except those of external hydrocephalus. In the latter form of the disease I should always use it. At one time a favorite method of treatment consisted in the use of mercurial laxatives and iodide of potassium, internally, and the compression of the head by means of adhesive plaster. This method has, I think, fallen into disuse. All the cases cured by it were, I believe, cases of external hydrocephalus.

When a case has advanced to this stage, it is incurable. When the effusion has been arrested in the early stage, the patient may live for a long time and preserve a fair condition of health. I have patients under my care who have attained the age

of thirty or thirty-five years, with well-developed chronic internal hydrocephalus.

Our treatment in this case can only be palliative, recommending a proper diet, regulating the bowels, and moderating the excitability of the nervous system by the use of bromides and mild opiates.

CHRONIC RHEUMATISM.

Here are two patients sent to us by Dr. Martin, of Allentown. They are troubled with chronic rheumatism. I see them to-day for the first time. This one is 66 years old, and in the furniture business. He says that he has rheumatism in the right foot. None of the other joints are affected, except those of one hand which was injured some time ago. The trouble in the foot has lasted for ten years. It followed an injury, a heavy weight having fallen on the foot.

On examination, I find that the ankle-joint is freely movable and motion does not cause pain; but when I come to move the joints of the tarsus and metatarsus, I find stiffness and I produce severe pain. There has been a chronic inflammation of the tarsal and tarso-metatarsal joints following a traumatic cause. We constantly see in those of a rheumatic diathesis local injuries setting on foot a chronic inflammation, which is very apt to lead to ankylosis.

In order to treat these cases successfully, we must have the foot manipulated until freedom of motion is restored to the small joints. I am now breaking up some of these adhesions. It is very painful. When a joint is very painful on motion and there is but little swelling, I am always hopeful of restoring good motion to the part by proper treatment. He must also be instructed to walk raising his body on his toes.

Along with this we shall recommend internal alterative treatment suitable to chronic rheumatism, and also the application of electricity to the muscles of the leg and foot.

This other man is 64 years old. He is a bricklayer by trade. He has suffered for two years. Most of the joints in his body are affected. I now take hold of the humerus, and fasten the scapula with my other hand; I raise the arm, and find that it is slightly adherent. Unless the humerus can be placed parallel to the head, rotated freely, and the hand of the affected side

placed behind the back upon the scapula of the opposite side, there are some adhesions in the joint.

The elbow-joint is also affected; the forearm can be readily flexed; but when I extend it, I meet with resistance. These adhesions must be broken up, but no violence is to be used. It is wonderful how expert professional manipulators become by practice. They will take a joint that another person can hardly touch without producing severe pain, and in a few minutes obtain a good amount of motion with comparatively little pain.

I have not time to take up each joint separately, but I have gone far enough to indicate the proper treatment. A suitable internal treatment must also be employed.

TRANSLATIONS.

NERVOUS PANARIS.—Under this somewhat equivocal title Quinquaud describes (*La France Médicale*, 1881, vol. ii. p. 326) the case of a married woman, 48 years of age, who in 1874, following an attack of malarial fever, suffered with an affection commencing in both hands, which were the seat of lancinating pains extending from the forearm along the line of the median nerve and down to the ends of the fingers. Three or four months after the beginning of this trouble the pain became more severe in the right thumb, which grew swollen and hard, especially towards the extremity. A physician called in at this time diagnosed panaris, but no suppuration followed, the epidermis became cracked and fissured over a limited area, and subsequently slight desquamation took place. It was a true *dry panaris* without cyanosis. Twelve days later a fresh attack, of eight or ten days' duration, occurred, terminating in the same manner. Subsequent attacks succeeded, and in 1875 the right index finger became the seat of six attacks of the same nature. The nail fell after the attacks, and was reproduced irregularly. The ring and little fingers were the seat of similar attacks, but lighter and accompanied with anæsthesia. Gradually other fingers became involved. The skin seemed sclerosed and bound to the bone, cyanosis occasionally occurred, and atrophy of the bone (?) to some extent. The pain during the attacks was very severe,

and kept the patient awake at night. Dr. Quinquaud goes at some length into a discussion of the various lesions of similar character described by different authors.

TRANSPLANTATION OF THE MEDULLA OF BONES.—Dr. Th. Kölliker (*Chl. f. Chirurgie*, 1881, No. 37), attracted by the report of Bruns on the transplantation of marrow, has made some experiments in this direction. He employed half-grown rabbits for his experiments, all the transplantations being made upon one and the same animal. Unlike Bruns, Kölliker transferred marrow not to the skin but to the anterior chamber of the eye and to the abdominal cavity. Transplantation of marrow to the anterior chamber of the eye was accomplished in the following manner. The tibia of another animal was trephined, a cylinder of marrow removed, and this was thrust into the anterior chamber by means of a small instrument similar to the Dittel's *porte-remède*. For transplantation into the abdominal cavity, excartulation of the knee-joint was practised, and the entire cylinder of marrow from the diaphysis of the tibia was placed in the abdominal cavity. After several failures,—partly on account of defective procedure, partly on account of too brief time of observation,—Kölliker succeeded in producing both cartilage- and bone-formation from the transplanted portions of marrow. Kölliker can therefore confirm Bruns's assertion that marrow entirely removed from its connection with bone and, in the same animal, transplanted to a distant part of the body under the skin, forms cartilage and bone, adding thereto the anterior chamber of the eye and the abdomen.

TUBERCULOSIS OF TRAUMATIC ORIGIN.—Traumatism, says Dr. Orbcassel (*Thèse de Paris*, 1880), exercises an evident influence upon tuberculosis in provoking and localizing some one of its manifestations, as pulmonary, genital, or articular tuberculosis. Tuberculosis develops itself sometimes in the zone affected by traumatism, sometimes in a more or less distant organ. In cases where tuberculosis originates at a point directly attacked by traumatism, it does not excite a sudden tuberculous inflammation, but the traumatism determines local modifications in the contused organs which, in an individual predisposed to such disease, serve as *loci minoris resistentiæ*; it is here that tuberculosis becomes localized. A slight but frequently repeated traumatism

may suffice, in persons so predisposed, to induce an explosion of tuberculosis at the point irritated. The affection is sometimes seen to be developed without any hereditary or acquired diathesis. In cases where tuberculosis shows itself at a point considerably removed from that of the injury, it would seem that the latter shatters the health and places the wounded person in a state of morbid receptivity sufficient to permit the tuberculosis to fix itself, in the absence of a *locus minoris resistentia*, on those organs for which it has the most affinity, as the lungs, the testicle, etc.

A CASE WHERE CRISES OF BRONCHITIC ASTHMA ALTERNATED WITH CONVULSIVE SYMPTOMS.—At a recent meeting of the Société Vaudoise de Médecine (*Revue Médical de la Suisse Romande*, 1881, No. 7) Dr. De Cérenville read notes of a curious case coming under his observation, where attacks of bronchitic asthma alternated with tetanoid convulsions. The patient, a chimney-sweeper, who suffered from emphysema, was admitted to the hospital for a well-marked attack of asthma. Bromide of morphia was being administered, without much success, when one day the patient was suddenly attacked by convulsions, clonic contractures of the limbs, rigidity of the muscles of the back and of the nucha, giving rise to complete opisthotonus. The reflex excitability was so greatly increased as to give the appearance of strychnia-poisoning. Morphia was given at first, but recourse was soon obliged to be had to chloroformization, continued for several hours. This at first only succeeded in effecting a slight respite, but later, after some days, complete sedation was attained. The asthmatic attacks, which had disappeared during this condition, did not recur.

Dr. De Cérenville alluded, in conclusion, to a somewhat analogous case to the preceding, where convulsive attacks in the arm had disappeared after erysipelas.

SOLUTION OF FALSE MEMBRANES BY PAIN.—Bouchut (*Paris Médical*, 1881, No. 25) uses the substance recently introduced into medicine under the name of papain, and which is derived from the *Papaya carica*, as a solvent for false membranes in croup. Chemical experiment shows that papain digests the false membranes outside of the body, converting them into peptones. Bouchut has used papain in thirty-two cases of croup and diphtheria, of which

only four ended fatally. He does not give any account of the severity of the disease in the different cases.

CASE WHERE A FŒTUS DEAD AT THE FIFTH MONTH WAS RETAINED IN THE UTERUS TEN MONTHS.—At a recent meeting of the Académie des Sciences, Dr. Depaul presented a fœtus dead at the fifth month which was not expelled until the tenth month. The mother was syphilitic. The fœtus, when expelled, was macerated but not putrefied. Dr. Depaul said that the case was one of great rarity, the fœtus having remained five months after death in the uterine cavity of the mother without causing any untoward symptom whatever in the mother. This case demonstrated that dead and macerated infants may remain in the amniotic fluid of the mother without doing her any harm.

SIMPLE METHOD OF COMPRESSING THE BRACHIAL ARTERY.—Dr. Schivelbein (*Bull. Gén. de Thérap.*, 1881, p. 238; from *Berlin. Klin. Wochens.*) suggests pressing the arm against the body very strongly and fastening it in that position. The patient then lies down on that side, the weight of the body serving as a compressor. In an emergency requiring the patient to sit up, he can press the arm against some immovable body, as a wall. By this means the radial pulse can be made to cease beating altogether. The method is worthy of trial when other means of compression cannot at once be obtained.

TREATMENT OF MALIGNANT PUSTULE.—Popper (*Cbl. f. Chir.*, 1881, No. 33), who, living in Hungary, has an opportunity to see numerous cases of malignant pustule, —usually situated on the hands, arms, and face,—treats all cases by excision of the lesion by a deep cut, going down into the subcutaneous connective tissue if necessary. If taken in time,—i.e., before general infection has occurred,—this procedure has, in Popper's experience, been invariably successful.

SOME NEW COMPONENTS OF NORMAL HUMAN URINE.—Experiments by Drs. Schiaparelli and Peroni (*Giornale delle Scien. Med.*, p. 794; from *Gazz. delle Cliniche*), according to a review of the work of these experimenters, have discovered in healthy human urine traces of lithium, cerium, rubidium, cesium, lanthanum, and didymium. The former three are associated with alkaline metals, the latter with calcium.

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PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 19, 1881.

EDITORIAL.

THE MUTUAL AID ASSOCIATION
OF PHILADELPHIA.

WE desire to call the attention of physicians in this city to the imperative claims of this young charity. In America more than in any other civilized country are riches and comfort uncertain possessions. The exigencies of business, the ups and downs of life, the uncertainties of investment, are greater here than anywhere else. The medical profession is notoriously one that does not accumulate this world's riches. Very few doctors—at least in this city—have, by the time they have reached forty years of age and surrounded themselves by a young family, been able to make provision for this family in case of their own death or disablement. Of course every professional man should insure his life, although he well knows that it is a chance whether, in case of his death, the companies will not be able to avoid paying anything; but, besides the uncertainties of that which ought to be certain, insurance provides nothing in case the doctor breaks down or suffers long illness. Three dollars a year is a trifle: an extra anchor thrown to windward at such cost surely is well cast, though the chance of the breaking of the main cables seems very slight.

Then, again, the strong should bear the burdens of the weak; and for the sake of brotherhood and of sweet charity, the richest among us should subscribe most freely to this mutual aid society.

In New York there are two similar institutions, both flourishing and active, which are said during the past year to have granted altogether sixty-one thousand

dollars in relief. These official figures are so large that it seems as though there must be a mistake; but were they reduced to one-fourth their present size they would be an unimpeachable witness to the need in Philadelphia of an organization such as the present. It is not necessary, however, to go outside our own limits for proof or example. No longer ago than last week application was made to the County Medical Society for relief by a widow of a late very prominent physician, who died supposing that he had provided sufficiently for those whom he left behind. At one fell stroke, however, the Market Street Railway swindle swept away the earnings of a lifetime, and left in poverty an already desolate home.

MEDICAL REGISTRATION.

IN the *Medical Bulletin* for November, Dr. R. L. Sibbett has some remarks in regard to the editorial which appeared some time since in our columns concerning the Pennsylvania Medical Registration law, which do not seem to need any reply. The fact that registration is still going on shows that there ought to have been fixed a time for its completion. It is well to notice Dr. Sibbett's strictures upon the medical schools for furnishing printed copies of diplomas for registration, "as these copies can easily be used for deception and fraudulent purposes in other States and foreign countries." It is plain that any one desirous of so using a printed diploma could well afford the few dollars it would cost to have it handsomely written on parchment and thereby have his forgery really deceptive. The schools have done right in their effort to save the time of the thousands of doctors who else would have had to have made or to have had made copies of their diplomas.

It is more questionable whether the schools are doing right in charging a large fee for endorsing diplomas from colleges

outside of the State. It will be remembered that the law requires such diplomas to be countersigned by the representatives of one of our Pennsylvania faculties; and we are assured that the Jefferson Medical College faculty have been charging twenty dollars for this, following, we believe, the example of the schools in New York, where a similar law holds. Some of the diplomas have been signed without charge by the University authorities, but, from recent reports, it seems uncertain whether twenty dollars may not look too dazzling. A small fee of five dollars—ample recompense for the trouble required—might be very justifiable, but the larger amount seems extortionate.

An interesting question is as to the fate of those holding outside "eclectic" diplomas. We believe that there is no "eclectic" college in the State. The "regular" colleges can hardly be expected to endorse the diplomas just mentioned. Will the homœopaths come to the rescue of their nondescript brothers?

BRAIN-WEIGHT, MALE AND FEMALE.

WE suppose there are but few persons who will deny that the male human animal has, on an average, more muscular power than the female; but there are persons, not altogether besotted, who cling to the idea that in power of generating brain-force the male is not superior to the female. So far as our present knowledge goes, there seems to be a distinct relation between mass and functional power in thought-forming as well as mucus-secreting organs. In his recent monograph, "*Das Hirngewicht des Menschen*," Bischoff has shown that in 559 male brains the minimum and maximum weights were respectively 1018 grammes and 1925 grammes, the average being 1362 grammes; whilst in 347 female brains the corresponding numbers were 820 grammes, 1565 grammes,

and 1219 grammes. The female brain would seem, therefore, to be 10.5 per cent. lighter than the male. The advocates of woman's superior intelligence can, however, take comfort in the fact that, when the proportion between brain and bodily weight is considered, the female has the better of it. For men, Bischoff gives the proportion 1 to 36.58; for women, 1 to 35.16. The gap between man and the gorilla is shown by the fact that the brain of this enormous anthropoid weighs only between 400 and 500 grammes.

THE next meeting of the American Public Health Association is to be held at Savannah, Georgia, November 29. Much business is to be transacted there, but perhaps nothing will be before the Society of equal importance to that brought forward last year by the committee of which Dr. Gihon, U.S.N., was chairman. He who would succeed practically in stamping out syphilis would be a benefactor second only to Jenner. In spite of all that has been written to the contrary, we think few men who have spent much time in foreign hospitals believe that legislation in despotic Europe has succeeded in distinctly staying the ravages of the disorder. Is it not syphilis which, in some of its protean forms, greets the visitor in almost every ward of chronic diseases?

In this country of feeble government, of political debauchery, of a machine civil-service, of bosses and henchmen, it seems to us hopeless to expect any good of any system of female prostitute registration and inspection. It does, on the other hand, appear as though the plan proposed by Dr. Gihon's committee might do good, and it has the strong commendation of being innocent of harm. The proposition is embodied in the following resolution:

Resolved, That the American Public Health Association earnestly recommends the municipal and State Boards of Health to urge upon the legislative bodies of this country the enactment of a law constituting it a criminal offence to know-

ingly communicate, or to be instrumental in communicating, by any direct or indirect means, a contagious disease, such as smallpox, scarlet fever, or venereal disease, and giving to said Boards of Health, and to the State and municipal health officials under their control, the same power in the prevention, detection, suppression, and gratuitous treatment of venereal affections, which they now possess in the case of smallpox and other contagious diseases.

This motion was adopted by the Association, and the committee continued in order to prepare drafts of a State law in accordance with it. With this proposed law we hope in future to acquaint our readers fully.

SOME of our readers may not remember a leading article from the pen of Dr. James Levick, which appeared some weeks since in our columns. As stated in the *Philadelphia Ledger* (a paper whose habitual wise action in regard to matters which concern mutually the profession and the laity is worthy of great praise and contrasts most favorably with the doings of sundry other influential dailies), Dr. Levick succeeded in conveying more information in a few lines than most of the books upon the subject do in a whole volume. If it had been written and widely read earlier, it might have saved much suffering among the crowds who this summer have rushed for health to the region, and so many of whom have died in the woods or come home worse than they went. Dr. Loomis, who first popularized the region, presented twenty cases, of whom ten got well, six were benefited, two died, and two progressed downwards. That any such proportion of benefit could be maintained in a large number of even picked cases is, to our thinking, absurd. We have spent many months in the Adirondacks, have seen many cases of disease there, and do not believe that the benefit to be derived by consumptives from life in that region is any greater than can be obtained by a similar out-door life in other dry, somewhat elevated wildernesses. The wild districts of Santa Fé, Mexico, and Southern Colorado, and even the woods of

Middle or Southern Georgia, seem to us superior for the year-round dweller to those of Northern New York. The Adirondacks are easily reached, are well supplied with guides who know how to minister to the invalid, and have a fairly steady dry climate. This seems to us about all that can properly be claimed for them.

THE so-called *National Surgical Institute* is advertised at present in this journal; and we think it but right to our readers and to ourselves to state that we looked into the matter before admitting the advertisement into our columns, and are convinced that as at present conducted the institution is worthy of the support of the profession. It was, as every Philadelphia physician well knows, formerly in the possession of men who hesitated at no course of action that they thought conducive to pecuniary success. The interest of these persons in the institution has altogether ceased, and Dr. Allen, its present head, is an old and consistent member of the Philadelphia County Medical Society. The mechanical treatment of certain forms of disease is becoming more and more important every day; and we know of no such collection of machinery upon this continent as there is in the building at Broad and Arch Streets. We understand that the use of this machinery at a fixed charge per *séance* is open to the general profession, and that, whilst Dr. Allen is always ready to aid by advice, it is not required that the cases should be put under his care.

WE would call attention to the notice in our advertisement columns of prizes for essays upon the subject of the "Radical Cure of Cancer." As the advertisement itself fully covers the necessities of inquirers, we will not occupy space in comment, only desiring to direct those who wish to compete where to look for information.

WE have received from the Dean of the *Jefferson Medical College* a letter, stating that his failure to answer our inquiries in regard to the size of the Jefferson College was an accident, and that the report as to the falling off of the class "is entirely incorrect."

LEADING ARTICLES.

THE ROYAL HOSPITAL FOR CONSUMPTIVES, AND THE CLIMATE OF VENTNOR, ISLE OF WIGHT.

IN Ventnor (Isle of Wight, England) is an institution which should receive the attention of our medical men. Its uses, purposes, and general arrangement render it quite unique. It undoubtedly is the only asylum of its kind in the world. This institution is the Royal National Hospital for Consumption and Diseases of the Chest. The one feature which makes it peculiar is called the "separate principle." This means that every patient has a private apartment. There is no massing of patients in large wards, and consequently there are none of those depressing conditions which accompany the ward-system of treating consumptives. What these conditions are is known to every medical man who has studied consumption of the lungs in hospitals. Chief among them are the impure air of consumptive wards, the effect upon every patient of the facial expression of all the rest, the effect of the dreadful cough, and particularly the almost daily occurrence of death in the presence of those whose minds as well as bodies should receive the very highest form of invigorating treatment. This is a matter to which but little thought, perhaps none whatever, has been given. Nevertheless, it is of the most profound importance. And it cannot be doubted that neglect of cheering and hope-inspiring influences sadly increases the death-rate in our consumptive hospital wards.

The mere knowledge that he has phthisis is quite sufficient to cast down the mind of a sensitive man. In common with the laity at large, he knows very well that a well-marked case of consumption is probably hopeless. If then he be thrown into constant association with the dying and the dead,—if the faces he habitually sees are the pale, sunken, haggard countenances of

consumptives,—if the sounds he hears are mainly the hollow, startling cough and the hoarse weak voices of patients who, like himself, are struggling in a vain wrestle with a fell disease,—surely whatever of medical aid he may be receiving is largely if not wholly overborne by profoundly dangerous mental influences, against which nothing is being done. If this vast error in our hospital treatment of phthisis be honestly and carefully considered, can one fail to be shocked and surprised by the almost universal inattention which it receives? *All* hospital wards should be made cheerful by bright color, entertaining pictures and statuettes, diversified arrangement, plants and flowers. Instead of this, we have only the blank white walls, white beds, and absence of all those things, easily obtained and comparatively inexpensive, which would create mental diversion and break up the present deadly influence of monotony. To a sick man, the rustle of trees, the song of a bird, a flower, a leaf, bring exquisite pleasure. It were idle to contend that even the poorest mind in a sick-ward would not be invigorated and made more self-sustaining if it were but acted upon by variety. Much more thought is given to this matter in London hospitals, in the wards of which one sees pictures and plants and flowers and other means of creating pleasurable mental impressions. What would be said of the physician if in his private practice he condemned his patients to rooms in which there were nothing but bald white walls to rest and comfort their minds and please their eyes? Yet even in his office-practice the physician is but too apt to forget that his patients require mental as well as bodily aid. One medical man will succeed in cases in which others fail, simply because he acts upon the minds as well as upon the bodies of his clients. In scores of instances in which there is physical ailment, it is the mind which should be first considered, although even the patient himself may be ignorant of this need. A striking illustration of this truth is the case of a lady who had vainly endeavored to find relief at the hands of several medical men. Consulting a new physician, who temporarily set aside physical symptoms and addressed himself to the mental condition of the lady, she made a remark to the effect that the questions he had asked were in regard to her greatest necessity, though she had not known

it before. They opened her eyes to the actual cause of her symptoms, and led the way to recovery. This illustration may bring a smile to the face of the reader. Doctors are but too ready to sneer at what they wrongly deem mere sentiment. But what is the practice of medicine? Is the physician's office a mere grocer's shop? Has he fitted himself for the noblest calling on earth simply to sell so much prescription for so much money? Can he separate mind from body? Would he educate his child's muscles and neglect the mental part? Symmetrical treatment of disease should include the mind as fully as the machine it occupies, for one reacts indubitably upon the other. And if physicians fail in their attempts at healing, does not the reason lie in their heedless and unthoughtful habit of clinging to the routine and one-sided methods which are so common,—viz., a drug remedy for the name which they give to an ailment, the mental condition of the patient being wholly switched off? A moment's thought will show that this is a fatally prevalent fashion. Physicians who will not take the trouble to do more than discover the probable character of a bodily affection and write a prescription which has helped other similar cases, and which they indolently think will probably help this one, are doing only half their duty. A volume might be written upon this subject to which the pen has wandered. But we do not forget what suggested it,—mental treatment of hospital cases. And this is the substratum of the régime of that eminently successful hospital in Ventnor.

This institution is only a few years of age, but already finds it necessary to increase its accommodations. Its projector was Dr. Arthur Hill Hassall, who wrote that useful and instructive book, "San Remo and the Western Riviera,"—a book which should be consulted by all physicians who wish to send chest-patients to the Mediterranean.

Although consumption is the most frequent and mortal of diseases, less has been done to alleviate the sufferings and meet the necessities of those who are afflicted by it than for any other affection. It was this consideration which principally led Dr. Hassall to the idea of the "separate" treatment of phthisis. But another and a serious reason for the establishment of this hospital was that, for obvious motives, con-

sumptives are not only largely excluded from the general hospitals, but hospitals especially erected for them are designed upon the principle of large buildings and wards, and many of them are wrongly situated,—viz., in the impure air of large cities and towns, instead of in the country.

(To be continued.)

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a meeting held at the Hall of the College of Physicians, Philadelphia, October 13, 1881, Dr. Albert H. Smith in the chair, Dr. Charles K. Mills read a paper on "Hypnotism," and presented two patients to the Society, upon whom he demonstrated the method of inducing the hypnotic state. A vote of thanks was unanimously passed to the lecturer for this interesting paper.

DISCUSSION.

Dr. M. O'Hara did not consider the condition as one of true sleep, and therefore believed the condition to be wrongly named "hypnotism." From the acceleration of pulse and increased temperature, as well as the strong influence upon the nervous system, he was confident that the state was not without danger, especially to the weak, hysterical subjects, who are the most easily influenced and therefore most frequently experimented with. He believed, from the effects he had seen, that the remedy was a violent one and calculated to do more harm than good. The whole matter requires investigation, and at present should be considered *sub judice*.

Dr. A. L. A. Toboldt said that of two cases in which he had attempted the experiment, one was decidedly influenced; the other seemed simply to lose herself for a short time. In the former the sense of hearing was noticed to be unusually acute, while the sense of pain was abolished.

Dr. W. R. D. Blackwood remarked that his first experience in this direction had been when he was quite young, and that the manifestations, which were partly assisted by two of his cousins, were more or less satisfactory until the close of the entertainment, when, to use a vulgarism, the volunteers "gave the lecturer away" by admitting the phenomena in their cases to be pretended only. He had seen many other performances since, the last of which, about three weeks ago, was by a physician, who terminated the exhibition by a repetition of the experiments of a New York neurologist, who, in addition to operating on the human subject, has gravely recorded the scientific value of hypnotizing crabs, to the delight of the old fish-women in the markets,

and his servant-girls by similar inflictions on the blattariæ, or ordinary cockroach, in his back kitchen. A large and apparently intelligent lobster was subjected to the canonical passes, and, becoming thereby properly "influenced," its smaller legs were arranged in various designs and remained thus. To show the insensibility to pain, the crustacean was poked in selected points with a penknife, which he bore with great equanimity; but on invading the main claws, the now lively subject of the experiment shut down upon the exhibition and the lecturer at one and the same time, amidst enthusiastic applause.

Dr. Blackwood considered the object of medical science to be the cure or relief of disease, and, not recognizing the hypnotic or mesmeric condition as equivalent to either natural or anæsthetic sleep (as from chloroform or ether), he believed its effect to be injurious to the brain and not justifiable as a therapeutic measure, especially as the trance-like state was more readily attained in hysterical and already weak-minded persons, who he conceived were more likely to be injured than benefited by such procedures. He was not satisfied with the genuineness of the demonstration in either patient this evening.

Dr. J. T. Eskridge explained the phenomena by the removal of the inhibitory influence normally exerted by the higher cerebral centres upon the basal ganglia and spinal cord. He believed the phenomena to be analogous to somnambulism, in which the lower part of the brain is supplied with blood, but the upper portion is anæmic. He would like to have seen more satisfactory tests applied, as the condition might have been simulated. He observed a peculiar state of the circulation in the first case, for no blood flowed from the puncture made with the pin by the lecturer.

Dr. J. M. Barton inquired as to the relation, if any, existing between the hypnotic state and the effects of rapid breathing.

Dr. H. E. Dwight inquired if the phenomena could be produced in perfectly healthy persons, or only in nervous or hysterical subjects.

Dr. Charles Hermon Thomas said that healthy persons could be hypnotized successfully, and referred to a public exhibition he had witnessed where he knew the subjects personally and was satisfied the condition was not simulated. A travelling mesmerist induced this state in about a dozen young men, students, by simply causing them to gaze steadily at a disk of zinc an inch in diameter, in the centre of which was a small copper knob, placed in the hand of each subject. About half of those experimented upon were decidedly influenced, and in these there was noticed an unmistakable change in the expression and color of the face; while in their actions they were entirely under the control of the operator, who required them to perform

a number of extraordinary feats,—some of them very absurd. The cases were not shamming, were evidently unconscious of their surroundings, and, when aroused by the operator, were startled as though suddenly aroused from profound sleep.

He had been much interested in Dr. Mills's remarks and demonstrations, and hoped that, as scientific attention has now been directed to the subject, something practical may come out of it. In hysterical paralyses, this condition might prove serviceable; for, if in it exercise of the parts can be made under control of the physician, they may afterwards be moved voluntarily in the conscious state.

Dr. Henry H. Smith noticed the difference between hypnotism and anæsthesia produced by ether or chloroform: in the former the pulse, temperature, and respiration are increased, but diminished in the latter.

Dr. F. Woodbury said that, while some of the phenomena of what has been termed by Carpenter "artificial hypnotism," or trance (Beard), were apparently produced in one of the cases presented by the lecturer, the demonstration was not nearly so striking, nor the phenomena presumably so characteristic, as in those recently shown before the Academy of Sciences in New York by Dr. Beard, or the Neurological Society by Dr. Morton, nor those of Hammond at the Medico-Legal Society, nor even those by the so-called mesmerists in the public exhibitions. The special senses are so perverted, in some, that healthy individuals, while in this state, have been made, it is said, to inhale ammonia without exhibiting any evidence of pain, or indeed any suspicion that it was not the Cologne-water which had been described to them; in the same way pricking, pinching, or the application of the actual cautery apparently caused no pain. This temporary analgesia was evidently due to some peculiar condition of the central nervous system. An important question to be asked is whether induced hypnotism is a physiological or a pathological condition. It appeared to be abnormal, and therefore pathological; and its possible effects upon nervous subjects, who have been found to be most readily influenced, must be borne in mind in our experiments.*

The theory proposed by Dr. Eskridge of the release of the spinal cord and medulla from the physiological inhibition of the higher centres, while it might explain the purely automatic movements, etc., would not explain the psychical phenomena which are undoubtedly present in some cases,—those, for instance, in which an ordinarily quiet person is made to deliver a violent harangue, or another, without any previous manifestations

* See paper by Dr. E. C. Mann, of Sunnyside, New York, on "Hypnotism, Mono-Ideism, Phreno-Mesmerism, or Animal Magnetism, as related to the Physiological Pathology of the Brain," in the *College and Clinical Record* for 1881, vol. ii. p. 150.

of the ability, will extemporaneously deliver original poetry or rhyming lines by the hour, and otherwise give evidences of great stimulation of the faculty of ideation. Not to enlarge upon this point, it would appear that the theory of Beard,* of "mental concentration,"—in which one power of the mind is supposed to be intensified, or elevated to an abnormal degree, while all the others are for the time very greatly retarded in their operation,—comes nearer to the truth than any other that the speaker had been made aware of.

Concerning its relations to nervous diseases, since the lecturer had called attention to the increase in the tremor in the right arm of his patient while hypnotized, he would say that the connection between tremor and paralysis is so close that possibly hypnotism, instead of benefiting this patient, might aggravate her disease and leave her in a worse condition than before. In a case of grave hysteria at the German Hospital that had recently been under the speaker's care, the convulsions, which were of very violent character, could always be induced by pressure upon a tender area on the right side of the scalp, possibly connected with some meningeal growth in the cortical motor region (traumatic?). In this case a tremor of the left arm had existed nearly two years before the convulsions. It was associated with the anæsthetic area on the left forearm supposed to indicate a typical case of hysteria. In such a case hypnotism could not remove a coarse lesion, if the symptoms were really caused by such, but, on the other hand, might do damage to the brain-functions already weakened by organic intracranial disorder. In fact, in a patient predisposed to insanity, or in one who had previously suffered from mental aberration, it might develop acute insanity. This unfortunate accident has already happened. So close is the relationship that Tuke has proposed for this state the name of artificial insanity. The intracranial circulation does not appear to be *generally* disturbed, if we may accept the statements of Mittendorf, who failed to detect any change in the retinal circulation.

One of the most interesting applications of artificial hypnotism, if we can ascertain how to induce it *cito tuto et jucunde*, is as a possible substitute for anæsthetics for surgical operations. It is asserted that only about one person out of twenty can be profoundly influenced; but in the proportion, whatever it may be, of those who are susceptible, this method has obvious advantages over the entire unconsciousness of ether- or chloroform-inhalation, because the intelligent assistance of the subject can be obtained while his volition and appreciation of pain are suspended. Cases of this kind have been reported: one in

particular he recalled, which was reported by Dr. E. S. Day, of Hempstead, Texas, to the Louisiana State Medical Society at its meeting in April, 1879, and may be found in the published volume of Transactions. Doubtless there are many others. He hoped that the Society would not let this matter rest here, but would appoint a committee to fully investigate the subject and report at a future meeting.

Dr. Mills, in closing the discussion, said that he agreed with those who had declared that hypnotism was not a condition of natural sleep: it is rather a state of artificial somnambulism, if it is comparable with anything. Results may be obtained from hypnotism, but not such as would be likely to be derived from natural sleep. The fact that the condition was pathological rather than physiological was also admitted. It should be borne in mind that harm may be done by incautious experiments in hypnotism.

Braid, who originated a new era in the study of hypnotism, was very enthusiastic as to its use in medicine. He was a physician and surgeon of high standing. He was honest as well as earnest. In his book he details many cases treated by hypnotization, and, as he supposed, successfully. These Dr. Mills had carefully analyzed. Some of his conclusions were doubtless legitimate; but with reference to many of his cases he appeared to have been misled by his over-enthusiasm. The cases brought before the Society were not of the kind likely to be benefited, as he had ascertained by his experiments. He had no doubt that they were genuine cases of hypnosis. The second was more or less in a hypnotized condition when she was brought in the room. Grave hysteria, indeed, might often be regarded as a more or less pronounced condition of hypnosis. In such cases of hysteria, as in hypnosis, the cortical ganglion-cells are in a state of inhibition, and the basal ganglia and still lower centres have full sway. In an opposite class of cases with paretic or paralytic symptoms, treatment by hypnotizing might prove useful. A case was related of brachio-crural monoplegia, in which great apparent benefit had followed the employment of passes.

The condition which results from rapid breathing and that present after hypnotizing are probably somewhat similar. The rapid breathing unduly increases the activity of the lower portions of the brain. As regards the cerebral circulation, some of the experiments of Heidenhain showed that an individual could be hypnotized after the use of nitrite of amyl. Sight and hearing are made use of by the subjects.

Dr. Mills said that he had succeeded in partially hypnotizing two healthy persons. He had frequently seen it done by others.

Esdaille, a surgeon in the British East Indian service, had performed sixty or seventy surgical operations upon hypnotized patients.

* For a fuller consideration of this, see an interesting editorial on the "Phenomena of Trance," Medical Record, vol. xix. p. 182 (issue of February 12, 1881).

REVIEWS AND BOOK NOTICES.

A SYSTEM OF SURGERY, THEORETICAL AND PRACTICAL. Edited by T. A. HOLMES, M. A. First American from the Second English Edition. Thoroughly revised and much enlarged by JOHN H. PACKARD, A.M., M.D., assisted by a large corps of the most eminent American surgeons.

In our knowledge of the American medical book-trade history there are scarcely more than one or two instances of a very bad practice which equal in viciousness that to which the present volume owes its birth.

The modern so-called Systems of Surgery, or of Practice of Medicine, are books, as every one knows, peculiar in character, and, as it seems to us, are almost anything but systems: they are collections of essays upon various diseases, written by various men, of various carefulness and ability, and edited—*i.e.*, proof-read—by some eminent individual. An American rehash or reserving of an English System of Surgery, such as this, is indeed a curious piece of literary patchwork. Each article had its own author and editor also in England, and now it has its own American editor, edited in turn by the Great Mogul of the bevy of American editors. What does it all amount to? Holmes's Surgery is ten years old; certainly its articles must need thorough overhauling, and, it may be, rewriting in great part. The authors of most of the articles are still living, and in this new volume each author seems to be responsible, under the date of 1880, for views he may have discarded years ago; whilst here and there, enclosed in a stray bracket, the emanations of the American brain contradict or supplement or confuse, as the case may be, the infirmities of the aged original text. A scientific article can only be properly revised by its author; and such attempts as the present are well calculated to enrage authors, to displease many readers, and probably to please very few people. It is said that Mr. Holmes has been made very angry by this unauthorized use of his System of Surgery; and we confess that we sympathize with him. We feel well assured that if some one were to republish in like manner a book we had written years before, our wrath would be kindled not a little. Formerly, however much we might desire it, the prospect did not seem to warrant a feeling of hope that the day was not far distant when an international copyright law would put an end to such piratical ventures as the present, and the literary energy of American surgeons and physicians be not allowed to spend itself in such pitiful tasks, but be forced to labor in the building up of a truly American medical literature. Now we are happy to say that there is a little gleam of light, and that we may hope, instead of publishers piling up gigantic fortunes at the expense of impoverished authors, the lambs may get something

even from the lions, because the lions are quarrelling among themselves. It is said that an enterprising New York firm is about to publish cheap editions of foreign medical books, similar in form and price to the so-called "Sea-Side Library" and other similar literary series,—a large medical work for twenty or thirty cents. When this really happens, the fate of the stately reprints of English works is sealed, and nothing but an international copyright will save the publishers themselves. Then will the all-powerful become virtuous, and some of the great houses of the land be heard with voices lifted up for the protection of authors. May heaven prosper the day!

OBSERVATIONS WITH THE HÆMACYTOMETER UPON THE GLOBULAR COMPOSITION OF THE BLOOD AND MILK. By FREDERICK P. HENRY, M.D. (Cartwright Prize Essay.) Philadelphia, F. A. Davis, Attorney, 1881.

The important conclusions reached by Dr. Henry, after much laborious work, are contained in the following summary.

First, as to the blood:

1. As there are wide diversities of bodily condition included under the relative term of health, so the globular composition of the blood, being one of the factors upon which the bodily condition depends, is likewise variable.
2. In health, an inverse ratio between the temperature and the number of blood-globules can be plainly demonstrated.
3. On individual days this ratio cannot always be demonstrated, on account of the variation of the hæmacytometer, and therefore, in order to neutralize the effect of this variation, a large number of observations is necessary.
4. The temperature varies on different days, on no two successive days being the same.
5. In health no relation can be established between the amount of urine pigment excreted and the number of the red blood-globules.
6. During menstruation, the number of red blood-globules is slightly diminished.
7. In a perfectly healthy nursing woman, with good hygienic surroundings and abundant nutritious food, the number of red blood-globules is not diminished.
8. Rest and sleep are the most important agents in the restoration of the blood.

Second, as to the milk:

1. In fresh milk, a count of the globules is a matter of slight difficulty.
2. A milk containing 2,000,000 globules per c. mm. is an excellent specimen.
3. Menstruation diminishes the number of the milk-globules.
4. The hæmacytometer, on account of its convenience and accuracy, is the most valuable single method for examining milk.

ANTISEPTIC SURGERY. By DR. JUST LUCAS-CHAMPIONNIÈRE. Translated and Edited by FREDERICK HENRY GERRISH, M.D. 4to, pp. 239. Portland, Loring, Short & Harmon, 1881.

This excellent French description of the Listerian system has in a short time reached a second edition. In the absence of any good and cheap English or American book on the subject, Dr. Gerrish has published this translation for the help of those who desire to follow out the method practically. Rarely has it been our fortune to fall upon a better translation, reading as smoothly as native English, and seldom betraying its foreign origin.

The book itself is excellent. It gives the Lister theory in full, and the dressings in detail both as to their preparation and application. The varying conditions as influenced by the nature of the operation and the region of the body are noted, and the methods of adapting the system to the necessities of each case are clearly stated. Very wisely, Dr. Gerrish has omitted the incomplete bibliography, and has substituted for foreign spray-producers those made in this country and therefore readily procurable. We commend the work heartily to the student and practitioner who desire to understand the subject.

W. W. K.

GLEANINGS FROM EXCHANGES.

TREATMENT OF HÆMORRHOIDS.—Dr. Todd (*St. Louis Medical Courier*, September, 1881, p. 211) says that the first step in the treatment of recent cases is the administration of a saline cathartic: the best is sulphate of magnesium. After this the following pill may be used:

℞ Ext. colocynth. co., gr. xxx;
Ext. nucis vomicæ, gr. xx;
Ext. belladonnæ, gr. x.

Div. in pil. no. xl. One to be taken every evening on going to bed. More or less may be given, according to the effect produced, the object being to secure one full, soft evacuation daily,—neither more nor less. Relief from pain may be gained by the following:

℞ Iodoformi, ʒj;
Bals. Peruv., ʒij;
Ol. theobromæ et ceræ albæ, āā ʒiiss;
Magnesiæ calcinat, ʒj. M. bene.

Fiat in suppositoriæ no. xij. Insert one after each evacuation of the bowels, or, if necessary, oftener. Iodoform is a local anæsthetic of great power, and does not constipate.

Hæmorrhoids of long standing will only be benefited by this treatment, not cured. Dr. Todd's plan of radical treatment is as follows. All tumors found at the verge of the anus, and covered in part or wholly with integument, are clipped off with the scissors. If situated

within the external sphincter,—the bowels having been moved with a dose of sulphate of magnesia given a few hours before,—the patient is placed over a vessel and directed to strain (a vessel filled with hot water is best). If the tumors do not come within reach in this way, the finger should be thrust into the bowel, provoking tenesmus, and the patient again be instructed to force the piles down. When within reach,—the nates being separated by an assistant,—the tumors are seized one by one with a forceps and held, while with the hypodermic syringe from five to ten minims of a solution of nitrate of silver (one drachm to the ounce of distilled water) are injected into each, not stopping till all have been thus injected. No pain is felt except what is caused by handling parts rendered hypersensitive by protracted irritation.

One of the suppositories before mentioned may now be passed into the bowel, and thenceforth, if the treatment already given for removal of constipation be followed up assiduously and patiently, little further inconvenience will be felt and no further treatment required. Even though the suppository be omitted, little pain is felt, and the patient goes at once about his business. The tumors immediately become hard, atrophy, and in about ten days have wholly disappeared. They can only recur from the cause which first produced them. Dr. Todd says that he has not had occasion to repeat this little operation in the same individual but once, which was in the case of an old gentleman, in whom tumors located higher in the bowel subsequently came down and were cured by the same means.

POTASSIUM BROMIDE IN ORCHITIS AND INFLAMED BREASTS.—Dr. J. Grammer, M.D., says that, when consulted in time, he finds nothing else necessary, either in orchitis or milk breast, but potassium bromide, in five-grain doses, three times a day, or smaller doses, more frequently repeated. In advanced or complicated cases, of course, auxiliary measures should be used, if only as a precaution, or to expedite the cure; but he has never had the bromide to fail him even when used alone.

In orchitis, a suspensory should always be worn.

In some of these cases, he has seen the disease held in abeyance for weeks, when the patients would persist in the grossest imprudence, in walking and horseback-riding. He rarely restricts them in diet. Yet even these cases eventually recovered, without suppuration or atrophy,—neither of which results has he seen since he has used this remedy.

He has had no opportunity to test it in the metastatic orchitis of mumps, but is sure it will prove as useful as in the ordinary cases; and, though it is a specific inflammation, he expects to find it efficient in the next epidemic of parotiditis he may meet with.

Dr. Grammer has seen but one case of

mammary abscess since he commenced the use of the bromide of potassium for such cases, and that case occurred not very long ago. The abscess had already pointed when he first saw it. He opened it, and prescribed potassium bromide, gr. ij, every three hours during the day; and in less than a week her husband reported the patient well. This, however, was not a fair test of the effect of the bromide on a mammary abscess, for there was no infant to complicate or irritate the inflammation. It was to Dr. Grammer a unique instance of the secretion of milk during pregnancy. The woman was four or five months advanced with her fourth child, and she stated that, being habitually rather irregular, she always recognized her pregnancy by the appearance of milk,—the secretion of which thenceforth continued.—*Virginia Medical Monthly*.

ATROPIA-POISONING SUCCESSFULLY TREATED WITH ESERINE.—Dr. Seargent (*Louisville Medical News*, August 27, 1881) reports the case of a man of 34 who swallowed half a grain of sulphate of atropia and three-quarters of a grain of sulphate of morphia. Ipecac in the dose of thirty grains was administered soon after, without producing emesis, and thirty grains of sulphate of zinc with mustard-water nearly two hours later, which caused the patient to vomit. When seen shortly after, the patient's respiration was 36, pulse 136. Two hours and a half after the ingestion of the poison an hypodermic injection of one grain of sulphate of morphia was administered. Fifteen minutes later the patient had a convulsion with opisthotonus without apparent rigidity of the extremities. Half an hour after the administration of the morphia the patient's pulse was 140, respiration 9. Electricity was used, with little avail. The bladder was found nearly empty. At the end of four hours and a quarter after the poisoning, one-sixteenth of a grain of eserine was injected hypodermically. In less than ten minutes the patient's respiration and circulation began sensibly to improve. In fifteen minutes he was able to raise himself up and ask for a drink of water. He now vomited quite freely, and walked to the ward assigned him, with a little assistance.

At 1.30 A.M., seven hours after the poisoning, he was found comatose and oblivious to his surroundings. Pulse was 120, very weak, respiration 14, pupils as widely dilated as when first seen. One-twenty-fourth grain of eserine was administered hypodermically. He began to improve at once, and in ten minutes was wide awake and perfectly rational. The catheter was used, but no urine was found, although the patient thought his bladder was full.

At 6 o'clock A.M. he was sitting up and anxious to go out. Respiration deep and 18 to the minute; pulse regular and 96 to the minute; pupils still dilated, and mouth dry. Patient was unable to urinate.

He was visited again at 9.30 A.M., and everything found normal except pupils, which were slightly dilated. Patient had not urinated, and had no desire to do so. An infusion of digitalis with acetate of potash was then ordered, which soon produced free diuresis, and in due time the patient was discharged well.

NERVE-STRETCHING IN LOCOMOTOR ATAXIA.—The attention that is being given to the subject of nerve-stretching as a curative measure in locomotor ataxia is leading to the operation being performed on all sides. Dr. Davidson (*Lancet*, vol. ii. p. 389; from *Liverpool Medical-Chirurgical Journal*) reports two cases. The first was that of a joiner, 36 years of age, who had contracted syphilis sixteen years before. The spinal disease dated for about two years, commencing with attacks of bilious vomiting, headache, and hazy vision; shooting pains in the legs began twelve months later, and characteristic ataxia set in. The patellar reflex was absent. The pains and gastric attacks continued, and four days after admission both sciatic nerves were stretched with an extension of forty pounds, or about half the breaking weight of the sciatic nerve. The wounds were treated antiseptically. Convalescence was slow. At the end of three weeks, however, there was improvement in coördination and a slight return of the patellar reflex. There was no recurrence of the lightning pains and gastric attacks, and at the end of two months the patient could walk fairly well, the patellar reflex being still more evident.

The second case was not so successful. The patient was 34 years old, and had first experienced shooting pains in the hands and arms about the spring of 1878. Since the beginning of 1879 he had suffered from frequent and severe attacks of vomiting. He was weak and emaciated, unable to walk without assistance, and his movements were characteristically ataxic, the arms being involved as well as the legs. The operation was performed as in the other case, and he recovered quickly from it, but the ataxia in the legs was not improved. However, the arms were better and the pains and gastric attacks lessened. Dr. Davidson remarks that this case was more advanced than the other, and that the want of success in it "proves little against the treatment doing good in an earlier stage of the disease."

SOLVENT FOR GALLIC ACID.—Mr. Frederick Long writes to the *British Medical Journal* to say that he has accidentally discovered a method of dissolving gallic acid. Having a short time since a case of hæmaturia, the result of uric-acid gravel, he chanced to prescribe a mixture containing half a drachm of gallic acid and a drachm and a half of citrate of potassium, and, to his surprise, he found he had a perfectly clear liquid, the gallic acid being completely dissolved. He has since made further experiments, and he finds that, with care, twenty grains of citrate will dis-

solve as much as fifteen grains of gallic acid in an ounce of water, and remain quite clear for any length of time. To be able to give gallic acid in perfect solution is a great advantage, as absorption must take place more rapidly when the salt is in solution than when simply suspended in mucilage. The citrate, being a very simple salt, can do no harm in any cases in which gallic acid is required. The only means of dissolving gallic acid for medicinal use heretofore known by Mr. Long have been alcohol and boiling water, both of which are practically useless.

PERIODICITY OF FILIARIAL MIGRATION.—Dr. Stephen Mackenzie writes to the *Lancet* (August 27), announcing that he has under his care at the London Hospital a patient from India suffering from hæmato-chyluria, whose blood and urine contain the filaria sanguinis hominis in large numbers. Observation in this case confirms Dr. Patrick Manson's statements as to the periodicity of filarial migration. In the daytime the patient's blood is practically free from filariæ; but when examined at night, each slide contains large numbers of the nematodes in a most active condition. As many as one hundred and twenty-five have been counted in a drop of blood beneath a five-eighth-inch cover-glass at twelve o'clock at night. Dr. Mackenzie has compared these filariæ with those from India sent by Dr. Lewis, with filariæ from the mosquito from China sent by Dr. Manson, and with filariæ from the blood and mosquito from Australia sent by Dr. Bancroft, with the result of showing the identity of the filariæ from these various sources.

DILATATION OF THE GALL-BLADDER—ITS TREATMENT BY ASPIRATION.—Dr. P. H. Kretschmar says, "We can, in the large majority of cases, by evacuating the contents of the distended gall-bladder, relieve our patients from the most distressing symptoms, the severe pain which naturally accompanies all cases of chronic dilatation of the gall-bladder, and by so doing prolong life. If the bile cannot enter the intestines to perform its physiological functions, but is retained within the gall-bladder and gall-ducts, simply to be absorbed and carried through the lymphatics into the blood, to act there as a poison, is it not advisable to remove such a superfluous substance from the body? Cholæmia or cholestæmia—as the blood-poisoning occurring in severe cases of icterus should be called, according to the experiments of A. Flint, Jr.—might be prevented by the early use of the aspirator."—*Virginia Medical Monthly*.

"CHLORALUM" FOR DISINFECTING PURPOSES.—This disinfectant may be prepared from the following formula:

Powdered alum, 10 troy oz. ;
Solution of chloride of calcium, 16 fl. oz. ;
Water to make 100 fl. oz.
Dissolve the alum in about four-fifths of the

water by the aid of heat; add the solution of chloride of calcium; filter, and add enough water through the filter to complete the quantity directed.—*Druggists' Circular*, July, 1881.

SALICYLIC ACID IN WOODEN VESSELS.—The preservative and antiseptic action of salicylic acid cannot be relied on when brought into contact with any liquid substance in wooden vessels or casks. The salicylic acid under these circumstances speedily disappears, being apparently absorbed and decomposed by the wood tissue. When this acid is used as an addition to drinking-water or wine, the cask must first be coated with pitch.

MEMBRANOUS DYSMENORRHEA.—

R Chloral. hydratis,
Potass. bromidi, āā ʒij (8.00 gm.);
Morphiæ sulphat., gr. jss (0.09 gm.);
Syrupi aurantii corticis, ʒiij (93.00 flgm.).

Sig.—A dessertspoonful in a wineglassful of water every four hours while in pain.—DR.

T. G. THOMAS.

MORPHIA OIL.—The committee of revision of the French Codex have adopted the following elegant formula:

Morphia, 1 gramme;
Oleic acid, 9 grammes;
Sweet oil of almonds, 990 grammes.

Dissolve the alkaloid in the oleic acid by heating them in a glass tube. Filter, and add the oil of almonds. *Atropia oil* may be prepared in a similar manner.

MASKING THE ODOR OF IODOFORM.—Mosetig recommends the *Tonka bean* for this purpose, which owes its peculiar pleasant odor to the presence of cumarin. It is said that *one* bean, whole or split, when added to 150–200 gm. (5 to 7 oz.) of iodoform, is sufficient to permanently deodorize the latter. For small amounts only a drop of the alcoholic or ethereal tincture of tonka is required. The antiseptic effect of iodoform is thereby not in the least interfered with.—*Wien. Med. Bl., and Pharm. Centralbl.*; *New Remedies*.

OPIUM IN THE TREATMENT OF ACID DYSPEPSIA.—Bouchardat (*New York Medical Journal*; from *Union Médicale*) recommends the following. Mix 75 grains each of powdered chalk and powdered rhubarb, and 1.4 grains of powdered crude opium; divide into ten powders; one to be taken daily at the beginning of the principal meal. Acid and overseasoned food should be avoided. For fetid eructations, the use of nitrogenous food should be restricted, and charcoal should be given with small doses of nitrate of bismuth.

ETHYLATE OF SODIUM.—To insure a good result in the use of ethylate of sodium for the destruction of nævi, Dr. Richardson says it is necessary to employ *absolute* alcohol. If the alcohol contains water, caustic soda is set free, not sodium in a nascent condition. Neither poultice nor water-dressing should be applied subsequently, as suppuration may then take place. The crust must be allowed to loosen of itself before removing it.

MISCELLANY.

COITION IN PREGNANCY. — Popilia, when reminded that pregnant animals did not permit the approaches of the male, frankly replied, "It is because they are brutes."

Undoubtedly, abstinence from coition, once the design of this function has been accomplished, is the law of nature. Ought the human race to accept this law as governing its action?

Recent obstetric writers are generally silent upon the question. Occasionally some half-breed (borrowing a term from Albany) writing medicine for the mass sustains the negative, often qualifying the permission to indulge with certain cautions; but, upon the whole, there seems a tacit consent for the laity to settle the question as—guided by wise reason and kind sympathy on the one hand, or by blind instinct and ungoverned passion on the other—they choose, just as my good friend the late Dr. M. B. Wright once said to me, "We must leave these matters to regulate themselves."

Yet our great master, Hippocrates, thought that pregnant women who abstained from coition had easier labors. Galen dwelt upon the liability to abortion from this cause at certain periods of pregnancy, the fruit more easily detached when more tender and when approaching maturity: so that the Christian Fathers had good authority for their injunction of continence in the early part and towards the end of pregnancy.

The older obstetricians of modern times did not think the matter unworthy of or improper for their consideration. Thus, Mauriceau forbade intercourse in the first few days following conception and in the last two months of pregnancy. Dionis, the frank, honest fellow, criticised his reasons and condemned his rules, concluding in these words: "I shall add that Mauriceau made his observations from himself, for, though married forty-six years, he did not have a single child. For my part, I have a wife who has been pregnant for twenty times and has given me twenty children born favorably at term, and I am persuaded the caresses of the husband do no harm." Gardien, whose contribution to obstetric literature is one of the most valuable and interesting of the century, devotes considerable space to the subject, and in the course of his remarks says, "It probably would be more prudent to abstain from using the rights of marriage from the time that pregnancy is certain up to the end of the lying-in."

The fact that abstinence from sexual congress in pregnancy is the common rule of animals is certainly a strong argument in favor of urging similar abstinence on the part of men. In addition, it may be truthfully asserted that the pregnant woman has as little desire for coition as pregnant females of lower

orders,—nay, oftentimes utterly abhors while submitting; for she is less protected by power of escape.

Furthermore, practitioners are sometimes told by innocent husbands—more rarely by wives who so often suffer in silence—that intercourse causes the latter great pain.

Finally, this is a frequent cause of abortion. At least one-half of the cases of what is termed spontaneous abortion probably are thus produced. Summing up the arguments* in the affirmative of the question, it may be stated that coition in pregnancy is unnatural; so far as woman is concerned, it is generally odious, often painful, and, in regard to the newly-created being, frequently murderous.

What can be alleged on the other side? The peace of families and the chastity of husbands are secured by the indulgence. But suppose men were trained to believe that such indulgence is wrong, injurious to others and to themselves, would their amiability and chastity require to be purchased by a momentary pleasure? Would they not rather learn to subdue and rule this otherwise imperious passion? If Newton, Kant, Fontanella, and Beethoven could live their many honored years with no indulgence of sexual passion, surely other men might abstain a few months without injury.

This ungoverned passion of man is prolific of evil, and, like producing like, the father who never has learned self-control may give his son not only form and feature, but the germ of the same fierce, clamorous desire which in its full development will prove a heritage of woe to that son and others. That which polite language veils under the designation *social evil*, and which desolates so many happy homes and brings its quick, black harvest of misery, remorse, disease, and death, chiefly lives because man does not know aright, does not duly reverence and honor women, and keep in subjection that which may become one of the master-passions of his heart, and is thus continued from generation to generation.

Surely prospective motherhood, woman within whom proceeds the evolution of the marvellous mysteries of creation, should be revered, is worthy of all kind and thoughtful consideration, and ought to have thrown around her all protective care. The woman who has conceived is *enceinte*,—that is, ungirdled,—in allusion to the ancient custom of laying aside the girdle when pregnant, and placing it in the temple of the gods,—at once a preparation for the enlargement of the abdomen and seeking divine protection. Let her not fail of all human care while in this

* It is highly probable that in many instances both the leucorrhœa and nausea and vomiting of the early months of pregnancy are greatly increased by coition. Cases have been observed where the nausea and vomiting did not occur at all, or only in a slight degree, if the husband was absent during the pregnancy; while in other pregnancies, he being at home, these symptoms were most distressing.

condition. Nature then offers unto man invitation and opportunity to subordinate passion to reason, to conscience, to will, to a higher love, and thus raise himself above himself. A sensual age claims for coition facilitating parturition; and the most sensual of husbands, finding their wives pregnant very much against their wishes and in spite of the devices of conjugal onanism, will claim that they can now indulge freely and without fear, for matters can be no worse.

We do believe that intercourse in pregnancy has nothing to commend, nothing to excuse itself unto wise men, and that virtuous abstinence on the part of the husband will be a blessing both to him and to his wife and to their posterity.

It may be objected that the abstinence here advocated contradicts almost universal practice,—a practice that frequently brings no evil. But how do we know that it has no injurious results? Admitting that the wife may, in the majority of cases, not patiently suffer, have no miscarriage, no pain, no nausea or vomiting increased or excited thereby, is there no violence done to the finer elements of a refined womanly nature? Does such a woman cheerfully accept it as the way of all, like Hiero's wife, who never perceived her husband's offensive breath, imagining that it was common to all men? It seems that there might follow some lessening of mutual love, respect, reverence.

So far as the husband is concerned, he learns no lessons of self-control, attains no self-mastery in this regard, and mars that ideal manhood which in better hours and with nobler aspirations he seeks to attain. He will be quite ready in such hours to adopt, as applicable to the act, the concluding clause, while he may reject the first, of the following extract from Sir Thomas Browne's "Religio Medici:" "I could be content that we might procreate like trees, without conjunction, or that there were any way to perpetuate the world without this trivial and vulgar way of coition. It is the foolishness of a wise man commits in all his life, nor is there anything that will more deject his cooled imagination when he shall consider what an unworthy piece of folly he hath committed."

As to the other objection, no matter how universal a practice is, if it be wrong, at least endeavor to point out the wrong. Whether I judge from observation, from the great doctrine of evolution which so fascinates the age, or from the power of divinely revealed truth, the conclusion always is that the world grows better, and that a wiser, higher, happier, nobler generation will one day possess the earth. Each evil pointed out, each wrong discovered, helps the progress to that day, although it may be long before the evil and the wrong cease. Meantime, it is a great mistake to accept a popular vote as the criterion of wisdom and right.

Possibly physicians are too reticent in regard to sexual relations, do not consider as fully as they ought the connection of these with human health and happiness, and give that instruction to the people which is so much needed in regard to such relations. Believing this, I can say, in the words of Montaigne, "I know very well that few will quarrel with the license of my writings who have not more to quarrel with the license of their own thoughts."

This may be the voice of one crying in the wilderness; but even in the wilderness many heard. If only truth be uttered, it one day will be heard, and, heeded, will multiply itself a thousandfold.—PARVIN: *American Practitioner*.

CODEIA IN THE TREATMENT OF DIABETES.

—Dr. R. Shingleton Smith (British Medical Association, *British Medical Journal*, vol. ii., 1881, p. 474) says that opium has been empirically used in the treatment of diabetes since the time of Aetius. In recent times the action of the drug has been investigated by Pavy and others, with the result of showing the practice to be the outcome of well-established experience; and observers had endeavored to ascertain to which of the alkaloids of opium the beneficial result is due. Codeia was first recommended by Pavy on the ground that it could be given in large doses without producing drowsiness. Of late it has been much used, as recommended by Dr. Saundby, in the cough of phthisis, where it gives great relief and has an appreciable soporific effect. But it is in diabetes that codeia has been of greatest service. As regards the dose, small doses are recommended by some authors; but Dr. Brunton states that it may be given in doses of a quarter to half a grain three times a day at first, the medicine being increased gradually until sugar disappears from the urine or increasing drowsiness demands its discontinuance. Dr. Pavy has given a series of cases in Guy's Hospital Reports, showing the beneficial effects of opium, morphia, and codeia in removing sugar from the urine, the advantage of codeia being that it did not produce the same narcotic effect as opium and morphia. Opium was given in doses up to nine grains, morphia up to three grains, and codeia up to ten grains, three times daily. Dr. Cavafy had given fifteen grains three times daily, with good result. Dr. Smith considers that alkalies and all other treatment—even dieting—are inferior to codeia as remedies for diabetes, and that in this disease it may be considered almost a specific, and should be the first remedy tried, and should be given in fairly large doses until some physiological effect is produced. Codeia has been said to produce convulsions; but the literature of the subject does not support this, and Dr. Smith has never seen any such effect. He cited three cases which all exhibited marked improvement while taking

codeia, which improvement ceased when the codeia was withheld, and was renewed on its repetition. Morphia had a good effect in two of the cases, but the improvement was much less marked than with codeia.

BIRTH-MARKS.—The following good story is told of a physician of Dayton, Ohio. The doctor was recently attending a case of labor in the family of one of his patrons, who, though a very excellent man, is a little slow in the payment of his medical bills. Immediately after the birth of the babe the father nervously asked, "Doctor, is the baby marked?" "Yes," quietly replied the doctor: "it is marked 'C. O. D.'." It is needless to add that the bill for that baby was promptly settled.—*Ohio Medical Journal*.

FOR 5100 medical students in 1880 in Paris there were only two chairs of obstetrics, one of theory, and one of practice. In London and Manchester there were eighteen for 2421 students; in Scotland, six chairs and 1566 students; in Austria, six chairs and 1505 students; in Belgium, four chairs and 238 students; in Switzerland, three chairs and 404 students; in Germany, twenty-one chairs and 4405 students; in Italy, seventeen chairs and 3455 students. While there is thus a chair of obstetrics to 187 students in the rest of Europe, there is but one to 2550 students in Paris, and only one clinical service for 5100 students.

DR. OTTO SPIEGELBERG, Professor of Obstetrics in the University of Breslau, died on August 10, at the age of fifty-two. He had just completed the second edition of his "Text-Book of Midwifery."

NOTES AND QUERIES.

21ST AND FAIRMOUNT AVE., November 7, 1881.

MR. EDITOR,—As many a practitioner has been embarrassed by the complaints of his consumptive patients with tubercular pharyngitis that the whisky prescribed for them rasps and irritates their throats, I beg leave to offer the following suggestion.

A teaspoonful of glycerin added to a pint of whisky not only removes its rasping character, but renders it smooth and, to some, more agreeable to the taste.

If your readers can be induced to try this when it is necessary for them to prescribe whisky, they may save their patients much discomfort.

Yours,
COMEGYS PAUL, M.D.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM OCTOBER 30 TO NOVEMBER 12, 1881.

KING, WILLIAM S., COLONEL AND SURGEON.—The extension of leave of absence on account of sickness, granted him in S. O. 105, May 7, 1881, from A. G. O., still further extended six months on account of sickness. S. O. 251, A. G. O., November 7, 1881.

WRIGHT, J. P., MAJOR AND SURGEON.—Granted leave of absence for twenty days on surgeon's certificate of disability. S. O. 229, Department of the Missouri, November 8, 1881.

McCLELLAN, ELY, MAJOR AND SURGEON.—Now awaiting orders at Louisville, Ky., to report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 252, A. G. O., November 8, 1881.

HARTSUFF, ALBERT, MAJOR AND SURGEON.—The leave of absence granted him in S. O. 214, October 20, 1881, Department of the Missouri, is extended nine months, with permission to go beyond sea. S. O. 251, A. G. O., November 7, 1881.

MEACHAM, F., CAPTAIN AND ASSISTANT-SURGEON.—To accompany from Fort Trumbull, Conn., to the Military Division of the Pacific, Batteries "C" and "M," First Artillery, ordered to start on 11th instant. Upon completion of this duty, to rejoin proper station in Department of the East. S. O. 66, Military Division of the Atlantic, November 8, 1881.

KOERPER, E. A., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from further duty at Yorktown, Va., and to proceed to Plattsburg Barracks, N.Y. S. O. 191, Department of the East, November 3, 1881.

SKINNER, J. O., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty as Acting Medical Purveyor in the field, and to proceed to his proper station, Whipple Barracks, A.T. S. O. 123, Department of Arizona, October 26, 1881.

FINLEY, J. A., CAPTAIN AND ASSISTANT-SURGEON.—To accompany from Fort Adams, R.I., to the Military Division of the Pacific, Light Battery "K" and Batteries "B" and "E," First Artillery, ordered to start on 14th instant. Upon completion of this duty, to rejoin proper station in Department of the East. S. O. 66, c. s., Military Division of the Atlantic.

TURRILL, H. S., CAPTAIN AND ASSISTANT-SURGEON.—To accompany Battery "H," Third Artillery, from Madison Barracks to New York City, and, on arrival, report in person at these headquarters for further orders. S. O. 67, Military Division of the Atlantic, November 9, 1881.

HALL, W. R., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 224, Department of the Missouri, November 2, 1881.

ARTHUR, W. H., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Sanders, and assigned to duty at Fort Washakie, Wyo. T. S. O. 110, Department of the Platte, October 29, 1881.

The following-named medical officers will report in person without delay to the Commanding General, Military Division of the Atlantic, for temporary duty with regiments about to change stations. Upon completion of their duty with these regiments, to report by letter to the Surgeon-General:

FIRST-LIEUTENANT E. C. CARTER, ASSISTANT-SURGEON.
" " H. J. RAYMOND, " "
" " T. J. C. MADDOX, " "
S. O. 248, A. G. O., November 3, 1881.

CARTER, E. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To accompany from Fort Adams, R.I., to the Military Division of the Pacific, the headquarters, band, Battery "F," and Detachment Light Battery "K," First Artillery, ordered to start on 10th instant. S. O. 66, Military Division of the Atlantic, November 8, 1881.

RAYMOND, H. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To accompany Batteries "A" and "D," First Artillery, from Fort Cumberland, N.Y.H., on 10th instant, for San Francisco. S. O. 66, c. s., Military Division of the Atlantic.

APPOINTMENTS.

To be Assistant-Surgeons, with the rank of First-Lieutenant.

EDWARD C. CARTER, of New York, October 22, 1881, *vice* Phillips, deceased.

HENRY J. RAYMOND, of New York, October 22, 1881, *vice* Ouis, promoted.

THOMAS J. C. MADDOX, of New York, October 22, 1881, *vice* Smith, resigned.

RICHARD W. JOHNSON, of Minnesota, October 22, 1881, *vice* Jaquett, promoted.

G. O. 77, A. G. O., October 31, 1881.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, DECEMBER 3, 1881.

ORIGINAL LECTURES.

ABSTRACT OF A CLINICAL LECTURE ON A CASE OF EMPHYSEMA OF THE LUNG.

Delivered at the Pennsylvania Hospital

BY JAS. H. HUTCHINSON, M.D.

HISTORY.—Ann McH., æt. 65; born in Ireland; married; washerwoman; admitted September 22, 1881.

She had always been strong and healthy until her present trouble began. She has had nine children, three of whom are living and healthy. Three of the others died accidental deaths.

About two years ago, after getting wet, she caught a heavy cold and had a severe cough, from which she has never since been free. After the cough had lasted a few months, she began having paroxysmal attacks of shortness of breath; these have continued and at times are very severe. She has been unable to do any work for several months. Appetite has become poor and bowels irregular.

Upon admission, patient is anæmic, has a great deal of dyspnœa; sonorous sibilant and mucous râles are heard all over chest; heart is dilated; urine negative. Ordered potass. iod. gr. x t. d.

October 27.—Has had several severe attacks of dyspnœa. Hyoscyamus, ether, and emetics have been tried, but without giving much relief. Ordered fl. ext. jaborandi, gtt. xxx.

October 31.—Jaborandi produced copious sweating and relieved the dyspnœa somewhat.

November 1.—Increased potass. iod. to gr. xxx t. d.

November 6.—Complains of nausea and headache. Reduced iodide to gr. lx a day. Is also taking mist. Bashami, f3ss t. d. Lungs are still full of râles, but she breathes much more easily. Percussion over chest is hyper-resonant. There is a systolic murmur heard over apex of heart.

It will be noticed that we have here the case of a woman, whose previous health had apparently been good, attacked with bronchitis with expectoration, and dyspnœa, increased upon exertion.

November 16.—Physical Examination.—On the breast you notice an eruption, which may without doubt be attributed to the iodide of potassium employed in the present treatment, and which should not mislead you. There is a slight degree of embarrassment of respiration, with not much expansion as compared with the ele-

vation of the chest in the movement of inspiration. The supra- and infra-clavicular spaces are depressed upon deep inspiration. The upper part of the chest is somewhat rounded, and vocal fremitus is still felt, but not well marked. In women it is not so well marked, as a rule, as in men. The inspiration is short, and expiration somewhat prolonged. Percussion is hyper-resonant, non-vesicular, and somewhat tympanitic. Auscultation, inspiration shortened, expiration prolonged. Sibilant sonorous râles increased more on one side and most marked on expiration; vesicular murmur not increased.

At the time I took charge of the case, the heart-sounds were marked by râles; but now a slight murmur at the apex, systolic in time, is distinctly heard, indicating the existence of mitral regurgitation. Cardiac dulness is decreased, which is due to an interposition of a portion of emphysematous lung. There is no albumen in the urine, but upon the addition of nitric acid the urine became dark,—a change due to the precipitation of iodine, and the formation of nitrate of potassium by the action of the nitric acid upon the iodide of potassium eliminated by the kidneys. The addition of a solution of acetate of lead to the urine produces the characteristic precipitate of iodide of lead.

The other organs interrogated, so to speak, show no sign of disease.

Pathology.—In this case the patient has had bronchitis for two years. Bronchitis, an inflammatory disease of the lungs, long continued, must cause in the first place degeneration, which is augmented by the pressure exerted in the act of coughing. The act of coughing, you remember, is accompanied by the closing of the glottis. The apices of the lungs, as well as their anterior borders, are first affected, the reason for which is evidently the comparatively slight external support to the lungs at these points. Dyspnœa is due to diminished amount of blood exposed to the air from the rupture of septa between the air-cells, thus decreasing the extent of aerating surface. The impaired circulation through the lungs causes a moderate amount of dilatation of the right ventricle, which in turn through the venous and arterial circulation leads to dilatation of the left ventricle and consequent incompetence of the mitral valve.

Treatment.—Arrest at once the bronchitis. In aged persons this is very important. The presence of the emphysema often embarrasses the treatment. In this case, hyoscyamus and the different forms of ether were used to relieve the dyspnoea. Iodide of potassium to the extent of ʒiiss in twenty-four hours has been most relied upon in the treatment. Its use is somewhat empirical, as I can give no reason for the undoubted benefit derived. The debility which usually accompanies emphysema should be met with tonics, as Basham's mixture. When the patient is greatly reduced, cod-liver oil and quinine are indicated. When bronchitis is present, and has proved rebellious to other treatment, oil of turpentine with mucilage of acacia and a few drops of some aromatic oil may often be prescribed with advantage. In a word, the treatment should consist largely of tonics, care being taken that the patient does not take fresh colds.

Prognosis.—In the present case it is not probable that we shall be able to restore the patient to complete health; but we may make her comfortable for the rest of her days.

ORIGINAL COMMUNICATIONS.

AN EXPERIMENTAL RESEARCH ON TUBERCULOSIS.*

BY ORLANDO C. ROBINSON, M.D.,

Southamptonville, Pa.

THE present paper is a brief account of a research extending over two years of continued work, and which will be published as a monograph in complete form, with all the tables of experiments, illustrations, and literature, at a later date.

The whole work has been done in the Pathological Laboratory of the University of Pennsylvania, under the guidance of Dr. Henry F. Formad.

The object of research was to determine the true nature of tuberculosis and its products. Here the following questions presented themselves:

1. Whether tuberculosis is a true infectious disease which can be produced only by inoculation with true tuberculous matter, as asserted by high authorities.

2. Whether tuberculosis is only a simple inflammatory process, with peculiar prod-

ucts the formation of which is conditioned by a peculiarity of the organism.

3. The determination of the exact structure of tuberculous products and their place in pathology.

4. Whether tubercles artificially produced in animals are morphologically identical with those occurring idiopathically in man.

As will be seen, my work is a simple record of experiments accurately executed, and a description of the products obtained, with a detailed account of the microscopic examination of the latter. I present conclusive observations and facts relating only to artificial tuberculosis and its morphological products in animals. Human tuberculosis was studied only in reference to the minute anatomy of its products: the clinical aspect was not touched upon. The practical application of the results obtained to human tuberculosis I leave to scientific clinicians and experienced physicians.

I have used in my experiments rabbits, guinea-pigs, cats, and dogs,—altogether over one hundred animals. These, after being experimented upon, were killed from time to time to watch the progress and development of the lesions, or were left to succumb to the disease by natural death. In every case careful autopsies were made. Finally, sections of the organs were made in every case, and examined under the microscope.

The materials used for inoculation were tuberculous cheesy glands and tuberculous lung, both human and from animals, as obtained in autopsies; cheesy matter from animals just killed. Inoculations were also made with normal glands, with blood, and with foreign bodies; again, with tuberculous matter boiled or soaked for a long time in alcohol or subjected to the action of nitric acid. Places of inoculation were beneath the skin, into muscles, and into the peritoneal cavity. The animals were well taken care of, and records were made daily, and the experiments all tabulated.

I will now only enumerate the several series of experiments and give the general results.

First series.—Inoculations made with gray miliary tuberculous matter into muscles and below the skin. Eight rabbits were experimented upon. Two of them died of septicæmia within three days, three animals remained well, and three took the disease within thirty-five days.

* Abstract from an inaugural thesis awarded a prize at the commencement of the Medical Department of the University of Pennsylvania, March, 1881.

Second series.—Inoculations made in peritoneal cavity with the same material as above. Ten rabbits were experimented upon. Three of these died of septicæmia within thirty-six hours; five recovered and remained well; two took the disease within forty-five days.

Third series.—Inoculations into muscles with cheesy matter taken from an induced cheesy lump of a rabbit. Eight animals: three positive and five negative results.

Fourth series.—Inoculations at various places with tubercular matter soaked for a long period in alcohol and then subjected to the action of carbolic acid. Forty animals used,—cats, dogs, rabbits, and guinea-pigs. Fifteen animals became tubercular within ten to fifty days; twenty-five animals remained well.

Fifth series.—Inoculations made with blood taken from a healthy dog. Seven animals used. Three animals became tubercular, four gave negative results.

Sixth series.—Introduction of foreign bodies (pieces of wood, glass, sand, etc.) beneath skin. Ten animals used. Four animals developed cheesy lumps at seat of injury and became tubercular in from fourteen to fifty days. Six animals remained well.

Seventh series.—Simple traumatic injury (breaking of leg, etc.) produced tuberculosis within thirty days in two out of six rabbits.

Prof. H. C. Wood and Dr. H. F. Formad, in their researches on the effects of inoculating the lower animals with diphtheritic exudation, performed under the auspices of the National Board of Health in 1880, found that inoculating with this material subcutaneously, when a fatal result was obtained, tuberculosis was present. In order to ascertain whether the diphtheritic matter acted specifically in the production of tubercle, or whether it merely set up a local inflammation which formed a focus of infection, they experimented by putting under the skin of rabbits small masses of innocuous foreign matters; and in these experiments nearly fifty per cent. of the rabbits had also become tubercular.

The immediate result of inoculation of animals with various materials in my experiments was active inflammation. In all these cases there was present a local suppuration as a consequence of a simple traumatic procedure. An abscess thus is

produced, and the (scrofulous) tendency to caseous degeneration in some animals causes the absorption of the liquid constituents, and a cheesy mass results, which acts as a focus of infection.

Cheesy masses were not produced in all the experiments, and in some of the animals the wounds produced healed perfectly and without consequences.

One hundred and nine experiments are recorded in all; and careful observations show twenty-three cheesy masses in thirty-six rabbits, two in eight cats, two in eleven dogs, and eight in fourteen guinea-pigs. It will also be noticed in my experiments that over fifty per cent. of rabbits and guinea-pigs become tubercular. In cats and dogs this tendency is not so common, not exceeding ten per cent. Only in those cats and dogs which were ill-nourished and emaciated did cheesy lumps form at the seat of inoculation or injury, and these were in some instances followed by tuberculosis. I am not aware that anybody really succeeded in inoculating tuberculosis either in the cat or in the dog.

Animals in which cheesy masses were not produced failed to become tubercular.

In some rabbits and guinea-pigs inoculations seemed to have little effect. The animals resisted the affection even after repeated and prolonged experimentation.

The experiments also show that it made little difference in the results whether foreign bodies causing only a simple traumatic irritation or whether tubercular matter was taken for inoculation material. In each case the same cheesy masses occurred, consisting of the same morphological constituents and having the same physical properties as those produced by true tuberculous matter; nor did the tubercular products differ from those induced by genuine tubercular matter. Hence it seems evident that in my experiments tuberculosis was invariably secondary to the cheesy lumps, and consequently an indirect and not a direct result of inoculation.

It appears to me fully conclusive that in these experiments the direct relation between the production of cheesy masses and that of tuberculosis is that of cause and effect.

I have also shown that well-nourished animals do not become tuberculous, and that no cheesy lump could be produced in them. Such animals I would term non-scrofulous; and I believe that the same

relation exists between scrofulous and non-scrofulous animals of the same species as exists between the scrofulous and non-scrofulous in man.

Dogs and cats under unfavorable conditions of nutrition become scrofulous, as the rabbit, guinea-pig, monkey, or, in fact, any animal, may become tubercular, provided it be inoculated when under similar conditions of nutrition.

It is known that rabbits take little liquid food and especially little or no water. Waldenburg suggests this circumstance to be the reason that suppuration in these animals is substituted by cheesy degeneration. I think this very plausible. I have, however, a more important fact in favor of the scrofulous tendency in the rabbit and guinea-pig. In studying the anatomy of the animals experimented upon, Dr. H. F. Formad directed my attention to a peculiarity in the structure of the blood-making organs of the two species of animals named, particularly the latter; and I have myself also had frequent opportunity to observe the following: the lymphatic glands are disproportionately large; the Malpighian bodies of the spleen are larger and more numerous than in other animals, though the organ itself is not large; the marrow of bone is usually red and contains very little fat; the thymus gland is always of considerable size and seems never to disappear, or, in fact, has never been found absent. Besides these peculiarities, I have frequently seen small heteratopic lymphatic structures in the interstitial connective tissue in various parts of the body. The question arises whether this evidently leucæmic condition of these animals has not something to do with their scrofulous tendency. It is possible that this surplus of lymphatic structure and of the lymphoid cells comprising them plays an important rôle in furnishing the elements for the tubercle.

In my experiments most of the animals died in from one to eight weeks. From the time of inoculation up to a short time before death, as a rule, no evident symptoms of disease were manifested. Occasionally I noticed a rabbit refuse to eat, remain quiet in the pen, and finally die. The earliest deaths were caused by septicæmia, the animal dying a few hours after inoculation; or by hemorrhagic infarct following pulmonary embolism, producing asphyxia. At the end of two weeks sev-

eral animals died of croupous pneumonia. When one month or six weeks had elapsed, the lungs were generally tuberculous, and in many instances the vesicular structure was filled with a catarrhal exudate.

In the majority of cases, when the animals were tuberculous, death was evidently produced by tubercular meningitis or tubercular peritonitis.

The tubercles were seen on the highly-congested membranes as diffused gray-looking granulations, which were verified by the microscope. In many instances it was difficult to make any deduction as to the mode of death from anatomical appearances.

The relative frequency with which the internal organs were affected by tubercles varied very much in my animals. The lungs, heading the list, were found tubercular twenty-five times, the spleen eighteen times, the serous membranes ten times, and the kidney and lymphatic glands each seven times. The latter were usually enlarged, but not tubercular. The microscope showed a hyperplasia and congestion of these glands, and only occasionally were they cheesy and tubercular.

In all animals where death was prolonged there was enormous hypertrophy of the blood-vessels of the lung and an infiltration of the adventitia of the blood-vessels by lymphoid cells.

Pyæmic abscesses were found frequently in the rabbit, especially in the liver. They presented yellowish-looking cheesy spots on the surface and in the parenchyma of the organs, varying in size from a pin's head to a pea. These abscesses evidently were produced in the same manner as that by which all pyæmic abscesses are produced, though in one case, in which the animal died in three days, they must have pre-existed. The origin here is not accounted for. A striking feature of some of the livers shown by the microscope is the existence of cystic papillomata with spaces filled with echinococci hooks.

The necessity of a certain duration of life, after inoculation, for the production of tubercle, seems to be shown by the results; yet there is no constant relation of this kind, as the different series show. Nine days may be looked upon as an unusually early period for the production of local tubercle, though, as a rule, general tuberculosis was not found sooner than one month.

ANATOMY OF TUBERCULAR PRODUCTS.

There is a great discrepancy concerning the histology and histogenesis of tubercle. Most of the experimenters did not examine microscopically the products artificially produced. They considered everything tubercle that appeared as such to the naked eye; and it appears to me that in some instances simple collections of lymph and other inflammatory products might be mistaken for tubercle, as I will show hereafter.

The tissues around the cheesy mass at the seat of inoculation are congested, swollen, infiltrated with leucocytes, and discolored with extravasations of blood.

The cheesy mass or infecting centre consists of small round cells, granular epithelioid cells, compound granule cells, connective-tissue shreds, oil-drops, cholesterol crystals, bacteria, and general débris.

Bacteria were present in most of the external cheesy masses, and were found occasionally in the interior of the blood-vessels, air-vesicles, and ducts, but seldom in tubercles,—not even in those of the lung. In some instances they were seen in nearly all organs; but I do not believe they stand in any causative relation to tuberculosis, as has been brought forward by Klebs, Remstadler, Ziegler, and Max Schuller, for the following reasons:

1st. I have failed to detect the presence of bacteria in many cases of artificial tuberculous products.

2d. They are present in all necrotic changes: hence their presence in cheesy masses does not signify anything.

3d. Tuberculosis has not been produced by direct inoculation with bacteria.

The question could arise whether the products obtained artificially in my experiments are really true tubercle. Here I will first refer to the generally-adopted anatomical definition of tubercle.

All modern pathologists describe and define three varieties of tubercle, which I will briefly describe.

1st. *Granulation tubercle*.—These are diffused collections of lymphoid cells, infiltrating the tissues, and impinging upon and obliterating the blood-vessels.

2d. *Miliary or gray tubercle*, occurring in nodules of the size of a millet-seed and composed of a number of submiliary tubercles. Each of the latter is made up of a circumscribed collection of lymphoid cells of rather epithelioid habitus, embedded into a lymphadenoid reticulum. These

miliary tubercles are perfectly avascular, may or may not contain giant cells, and are usually enveloped in a more or less distinct fibrous capsule.

3d. *Solitary tubercle, or tyroma*.—This is an aggregation of a multitude of miliary tubercles.

Any one of the mentioned varieties of tubercle may, and usually does, undergo cheesy degeneration and form a yellow or cheesy tubercle, not distinguishable from a primary cheesy mass.

I succeeded in producing artificially only the granulation tubercle and the miliary or gray tubercle, which showed a tendency to cheesy degeneration in some instances. This so-called granulation tubercle I found most commonly in animals where death ensued within the first two weeks. It consists of an indefinitely circumscribed conglomeration of embryonic connective-tissue or lymphoid cells without any special arrangement, occasionally containing giant cells. In the tubercular granulations of animals which died later, I observed also miliary tubercles.

In many instances tubercle granulations were seen to infiltrate tissue masses or to substitute them, or they were seen diffusely infiltrating the adventitia of blood-vessels, forming in some places nodular collections around them. They were perfectly avascular, and occasionally showed retrograde changes. In most cases they were developed in and surrounding blood-vessels or bronchioles. Sometimes the tubercle granulations infiltrated the septa of air-vesicles, forming nodes which occasionally protruded into the lumen of the latter. This may easily be mistaken for some product of exudation into the air-vesicles. A true catarrhal exudate was, however, frequently present.

I cannot resist the temptation to point out the similarity in the appearance of these tubercle granulations surrounding the bronchioles and alveolar passages with the idiopathic affections in man known as tubercular peribronchitis and tubercular catarrhal pneumonia.

These are appearances occurring in animals at an early period after inoculation.

In specimens obtained from inoculation of a later date—hence in a later stage of development of the lesion—the granulations are seen to arrange themselves more concentrically, forming distinct tubercle-nodules. Those cells within the granula-

tions which go to form the nodules are larger in size than those around them; they are also more granular,—due to fatty degeneration,—and have more or less an epithelioid type. The mode of the development of these nodules is seen very well in my preparations. In any given space of the granulations a certain quantity of cells enlarge, and, meeting with resistance in the surrounding cells which do not give space to these enlarging groups of cells, the latter are compressed together in a more dense mass. The resistance of the surrounding tissue being uniform on all sides, the nodules take necessarily a round shape. The strong compression of groups of cells into nodules—which alone is sufficient to bring on some retrograde changes—appears to me also a sufficient reason for their non-vascularity, also for the arrest of any higher cell-development and for the ultimate destruction of the cell-mass,—that is, the formation of cheesy matter. There is a beautiful analogy to this in the formation of pearly bodies in the epithelioma, in dead epidermis, etc. Dr. Formad believes that the formation of the mentioned pearly bodies is an ante-mortem act of the epithelioid cells to arrange themselves concentrically into compressed nodes, so as to occupy the least possible space, being impinged upon by the new developing cells around them. The rapid proliferation of the younger cells and the pressure from all sides cause the less vital older cells to arrange themselves concentrically into dense dead nodes. A peculiarly rapid formation of pearly bodies Dr. Formad has observed in gangrene of the skin.

The intercellular reticulum in tubercles, upon which so much stress is laid, is as indistinct in the artificial tubercle as it is in the human tubercle. After very careful study and experimentation with reagents, I have convinced myself that this so-called lymphadenoid reticulum, in most instances, is only an artificial product, due to hardening and condensation of the homogeneous intercellular substance. In fresh tubercle examined by teasing or by sections after freezing, neither in the human nor in the artificial tubercle is any intercellular reticulum seen.

There is, however, a variety of tubercle where the cells of the granulations, or even of the tubercular nodes, make an attempt towards organization. These I observed in animals in which comparatively few

tubercular granulations in the organs were produced. I have seen this best in the granulations of the cat and of the dog, and only very rarely in the rabbit. Here some of the cells of the granulations tended to become organized,—that is, attaining spindle-shape and stellate forms, and even slight fibrillation. No tendency to fatty degeneration was noticed. I believe that had the animals lived longer the tissue of the tubercles would have become a higher organized fibrous tissue. Death of these animals was not caused by tuberculosis. Two in which I found this fibroid variety I killed, having waited for the fatal issue for many weeks. Hamilton points out (*Practitioner*, 1880) that tubercles in man undergo this fibroid change and ultimately become small fibromata. It appears to me that some of the animals in my experiments which were tubercular did not die, and recovered on account of the transformation of granular tubercle into the harmless fibroid variety of tubercle.

Giant cells are frequently met with in tubercles, but not more than in any other non-tubercular granulation tissue; so that these cells are properly regarded as not pathognomonic of tubercle. In my preparations I met giant cells most frequently in the initial tubercle granulations; but they also occur in miliary tubercles, although many of the latter do not contain them. The disappearance of the giant cell seems to me to stand in direct proportion with the age of the tubercle, and I believe they are signs of progressive and not retrogressive change, as is claimed by some.

Mistakes are undoubtedly sometimes made; that is, transverse sections of blood-vessels may easily be taken for giant cells, especially if filled with blood or fibrin.

C. Friedländer ("Ueber locale Tuberculose," *Sammlung Klinischer Vorträge*, No. 64, 1873) makes a definite distinction between the giant cells of tubercle and giant cells in other situations. In tubercle giant cells the nuclei lie only peripherally in one row along the border of the cell, whilst in other giant cells the nuclei are scattered throughout the cell. I do not agree with Friedländer in this, as I have frequently seen nuclei scattered throughout the whole giant cell in both human and the artificially-produced tubercles in my experiments.

The question arises, are tubercles artificially induced in animals identical with

those occurring in man? I can answer this question positively in the affirmative. Careful study of human tubercle from numerous preparations made by myself from a large number of cases obtained from Blockley Hospital has convinced me of the full identity of idiopathic tubercle with artificial tubercle.

Simple granulation tubercles, with or without giant cells, are as common in man as they are in animals. The same can be said of the miliary tubercles in man: my preparations show them to be much more common without than with giant cells.

Friedländer could produce an apparent miliary tuberculosis, as he calls it, only when he introduced the inoculable material into the peritoneal cavity. He, however, asserts that the nodules obtained in animals in the different organs were not miliary tubercles, for the following absurd reasons: that they did not have any giant cells, and that they were not tubercles because they could be produced by matter other than tubercular; besides, he asserts that he could produce tubercle-like nodules by traumatic injury in the peritoneum. I fully agree with him that the nodules he obtained on the peritoneal serous membrane were not tubercles, because it is impossible to produce primary tuberculosis in serous membranes. It is very easy, and I myself have succeeded repeatedly in inducing an ordinary inflammatory exudation on this membrane, expressed by minute scattered nodules made up of coagulated fibrin and leucocytes, which fully resembles tubercle; and this is nothing else than what Friedländer did.

CONCLUSIONS.

1. Tuberculosis artificially produced in animals is not due to a specific virus.
2. To produce tuberculosis in animals the inoculation with tubercular matter is not necessary.
3. Failures to produce tuberculosis by inoculation with substances other than tubercular are in the same proportion as failures with true tubercular matter.
4. The introduction under the skin of any foreign substance capable of exciting an inflammation or any traumatic injury can produce tuberculosis, provided the animal is of scrofulous habitus.
5. Scrofulosis in animals is expressed by an inflammation terminating in the production of a cheesy mass.

6. Animals not generally scrofulous (cats and dogs) may become so, and then only tuberculosis can be produced in them.

7. Miliary tubercles are simply compressed aggregations of cells of any simple granulation tissue, ill nourished, into small nodes. The arrangement into nodes represents a true ante-mortem act of cells, to which any young inflammatory connective tissue is liable.

8. Under favorable conditions of nutrition, tubercles in animals may undergo a higher organization, becoming converted into harmless small fibromata.

9. Tubercles artificially produced in animals are histologically strictly identical with those occurring in man.

RECORD OF TWO CASES OF CEREBRAL DISEASE.

*Read before the Philadelphia County Medical Society,
October 26, 1881,*

BY H. C. WOOD, M.D.

CLOT IN THE LEFT CLAUSTRUM, WITH APHASIA—GLIOMA OF FRONTAL LOBE AND OLFACTORY BULB, WITH HALLUCINATIONS OF SMELL.

THE first case here reported I saw in consultation with Dr. Hext M. Perry. It is one of a class to which attention was first drawn by Sanders (*Archiv f. Psych. und Nervenkr.*, ix.). The explanation of the aphasia seems to me to be looked for not in the claustrum having any direct connection with speech, but in the probable destruction of the neighboring white fibres connecting the gray matter of the island of Reil with the lower centres. A clot certainly may occur in the claustrum without aphasia. In the present case, and probably in all parallel cases, the clot was a large one and pressed greatly on surrounding parts. The case illustrates the difficulties which surround the minute diagnosis of cerebral disease. During life the symptoms were supposed to be due to a disease of the third frontal convolution; and even with the light of the autopsy it seems impossible to have avoided the error.

Case I.—Mr. W. R. K., about 40 years old; was addicted to use of alcohol in excess; had been much exposed as policeman, and in Nevada. He had a venereal sore about 1870, but had never had any specific symptoms since 1874; and it is uncertain whether he ever had syphilis. Through February and part of March, 1881, he complained much of nausea and feeling of weight in the back of his head and down the neck, with occasional

very brief neuralgic headache. At this time there was also non-saccharine diabetes, the amount of urine varying much from day to day. There never was any sugar or albumen in the urine. This condition, after lasting some weeks, passed away, and the patient seemed well. On March 20, in the afternoon, his speech suddenly changed, and he began to sputter and mumble instead of speaking out words; there was at the same time intense pain in the head, which lasted all Saturday night and Sunday. Sunday night he walked the floor all night. Monday morning he went suddenly into a stupor, in which he lay for several days. The leg and arm were paralyzed first on Monday. The leg was never entirely paralyzed, but was so bad he could not lift it over an obstacle, and he could not walk without help. In the arm, motion was almost entirely lost. There was no distinct increase in the trouble with his speech at this time. The aphasia was almost as bad Sunday as afterwards. After Monday, he was at first heavy and very stupid, but his intellectual powers slowly came back: he always remained apathetic and much below normal in mental action.

From the time of his first paralytic stroke his leg slowly improved, so that when I saw him in the latter part of April he could walk with the aid of the arm of his wife, but was not able to lift his foot over any obstacle. His arm did not improve nearly as much as the leg; all the normal movements of it could be made, but very feebly. The aphasia was persistent up to death, but was somewhat ameliorated in that his vocabulary increased from one or two to half a dozen words,—"yes" and "no" and certain nouns, such as "chicken." All through the aphasic condition he was very apt to get angry on attempting to speak, and, after continued vain efforts, would exclaim, "Damn it!" Sensation was not affected. There were no other symptoms save those noted; and on May 2 a second apoplectic seizure occurred, from which he never rallied, but died May 4, comatose.

Autopsy.—The liver and kidney I did not see, but Dr. Perry, who made the autopsy, states that they were both in a state of marked fatty degeneration. Brain: right side with a large very recent clot in the frontal lobes tearing and destroying the structure; left side, a clot occupying the whole position of the claustrum, whose structure had entirely disappeared, and pressing sharply upon the external capsule, some of whose fibres seemed to be ruptured. There was also some pressure upon the lenticular nucleus, but no softening had resulted.

The following case is of interest as affording an example of an hallucination which, like many other similar fancies, rests upon a distinct physical basis. Hallucinations of smell are relatively uncommon; and I

cannot at present recall any case more nearly parallel to that which I am about to narrate than one recorded by Kussmaul, in which an attack of aphasia was ushered in by a strong peculiar subjective odor.

Case II.—I visited Mrs. S., aged 46, first, October 21, 1881. I was informed that she had been a healthy woman up to last March or April, when it was noticed that she was becoming more garrulous, and that, whereas she had formerly been quiet and retiring, she was getting into the habit of visiting neighbors frequently and gossiping much. Her conversation also at times seemed strange; and one day she affirmed that a neighboring smith smelt so strong she could not endure him,—no one else being able to detect any odor. These symptoms increased, and in a little time she began to have headaches, which persisted with occasional exacerbations and were always localized in the forehead. She seems to have complained frequently of a persistent disagreeable odor, and at an uncertain time began to have "spells," which were sometimes, if not always, ushered in by a very strong odor. She would call for a drink, immediately become excessively pale and unconscious, and the next moment "all the blood in her body would be in her face." It was further stated that the unconsciousness only lasted for an exceedingly brief period, and that frequently there were very decided "tremblings" of her left arm and leg during the attack. In the late summer and early autumn she suffered much from sleeplessness and gradually lost control over her left arm and leg. At times she had hours of stupor.

When I saw her, she was in a mild stupor, out of which she was aroused with some difficulty; was rambling in her talk; had nearly complete left hemiplegia; small, very sluggish pupils; no paralysis of ocular muscles; no loss of general sensation. She answered my questions fairly well, but when salt was put in her mouth failed to recognize it; nor could she tell cologne by its odor. Her brother-in-law coming to her, however, she complained of his smelling of tobacco; but whether she really perceived the odor or simply was led by old associations was uncertain. She complained much of headache and had been very restless previous to the stupor. The next night she was restless; but on October 23 she became comatose and died.

Autopsy.—Examination of brain only allowed. It was normal, except the frontal lobe, which was enlarged and had its olfactory bulb converted into a somewhat translucent grayish body of irregular form, in its widest part twelve millimetres wide and six millimetres thick, and in length five centimetres. It was composed almost solely of gliomatous cells. In the interior of the lobe, coming to the surface at the base of the olfactory bulb, was a diffused glio-sarcomatous

tumor involving the lenticular nucleus and capsular parts of the frontal lobe, also apparently the optic thalamus. The general gray matter of the cortex was seemingly not involved.

KAKKÉ: A DISEASE OF JAPAN.

BY W. NORTON WHITNEY, M.D.

THE rapid strides towards civilization made by certain Eastern nations of late, the increasing facilities for travel between their countries and this, together with a notable annual immigration, make a knowledge of the special diseases of those countries a matter of no little importance to the American profession. The object of this article is to call attention to a disease known in Japan as Kakké, and from which several deaths have already occurred in this country. I have had opportunity of studying this disease during a residence of several years in the country of its endemic prevalence, and since my return have had under my observation two cases,—one an old resident of Japan, who exhibits some of the characteristic symptoms of the disease,* and the other a native who has had veritable Kakké.

Kakké is the name applied by the Japanese to a peculiar disease endemic in certain low-lying malarial districts of Japan. It is recurrent, non-febrile, and non-contagious, and is most prevalent during the summer months. Palpitation of the heart, anæsthesia of the skin, tenderness of certain groups of muscles, partial paralysis of others, præcordial oppression, systolic murmurs, and dropsical effusions, together with nausea and vomiting in severe cases, are characteristic symptoms.

It is the opinion of those who have studied the disease that it is caused by a specific poison. Dr. D. B. Simmons, of Yokohama, whose residence of over twenty years in Japan and familiarity with the disease in all its phases entitle his opinion to the highest respect, believes that its cause is "a specific miasm, or soil-exhalation, like paludal malaria." Overcrowding, bad drainage, and bad ventilation seem to develop the poison in systems debilitated by these or other causes,—as sedentary occupations, labor, low diet, or non-assimilation of food; while non-acclimatization, occupation, diet, season,

and sex seem to be the principal predisposing causes.

It is claimed that Kakké is identical with beriberi, endemic in Ceylon, in certain portions of India and of the East Indies, and in Brazil. However this may be, the appearance of certain symptoms in the one not found in the other warrants a separate description of the Japanese disease.

The different forms of the disease are characterized by special symptoms,—the *dropsical*, by effusion of serum into the subcutaneous connective tissues and serous cavities; and the *atrophic*, by rapid wasting of certain muscles and diminution of the fluids. The general symptoms, briefly stated, are: prodromic lassitude, local anæsthesia (first over tibiæ, tips of fingers, anterior surface of thigh, and outer side of arm, lower portions of the abdomen, and around the mouth), tenderness of posterior muscles of the legs and of the upper part of the chest and subscapular regions, and partial paralysis of muscles underlying seats of primary anæsthesia, together with atrophy and spasm in some cases. Paralysis of the sphincter ani and bladder have never been met with in uncomplicated cases. Palpitation is nearly always present, and often very distressing. The pulse often ranges as high as 140, and a systolic murmur, most marked over the base and great vessels, is often heard early in the course of the disease. The area of præcordial dulness is extended in the dropsical form. The appetite and digestive functions are generally somewhat impaired, and nausea and vomiting may come on during the later stages of the disease. Dyspnœa, nearly always present with palpitation, is generally a concomitant of hydrothorax or œdema of the lungs. Præcordial oppression is often complained of. The urine is diminished in quantity, with high specific gravity and excess of solids. Albuminuria and hæmaturia are seldom observed. Dropsy is present in the large majority of cases, generally appearing over the tibiæ and then gradually involving the whole of the lower extremities, although in many cases, it is said, it only extends as far as the ankles. The dropsy may also invade other portions of the body, and effusions into the substance of the lungs, into the pleural sacs, and into other serous cavities are not uncommon. The face, however, seldom becomes œdematous, and never as markedly so as in kidney diseases. The

* It is a significant fact that the majority of foreigners who have been compelled to leave the country by reason of failure of health have been suffering from paralysis or nervous prostration.

mind is usually clear and the senses unaffected. The temperature varies, but is seldom high, being generally normal or below. Anæmia is present in the majority of cases, from which fact it has been claimed that Kakké is a disorder arising from anæmia. The anæsthesia, hyperæsthesia, paralysis, and dropsy are almost invariably bilateral.

Kakké may be complicated with other diseases and thus overlooked. Among the principal diseases with which it has been associated are malarial intermittent, typhoid fever, dysentery, and diarrhœa. The general and special symptoms may not occur in their usual order or intensity, one set of symptoms being more or less prominent. As to the pathology of Kakké, little is known, as the prejudice against post-mortem examinations is great, and consequently few have been made. The symptoms, however, indicate the spinal cord, medulla oblongata, and sympathetic centres as being involved. Examinations of affected muscles taken from a patient during life showed, under the microscope, extensive degeneration.

Treatment.—The Japanese physicians, practising according to the old Chinese system, administer cathartics and some secret remedies, at the same time ordering nitrogenous food.

Cathartics and diuretics are now employed by foreign physicians to reduce the dropsy and carry off the *materies morbi*. Aconite is employed to reduce the activity of the heart and muscular hyperæsthesia, and strychnia and electricity for the atrophied and palsied muscles after the height of the disease. The removal of the patient from the district where Kakké occurs, or even to a greater altitude in the vicinity, is found necessary, and, together with improvement of hygienic condition and proper medication, generally effects a cure.

As the above sketch only gives a brief outline of this peculiar disease, reference may be made to the following papers: "Beriberi; or, the Kakké of Japan." A monograph by Dr. D. B. Simmons, of Yokohama. A very complete paper. Trans. of the Deutsche Gesellschaft für Natur und Volkerkunde Ostasiens, July, 1873. Dr. Anderson, in St. Thomas's Hospital Reports, N. S., vii. 5, viii. 247. Trans. Asiatic Soc. of Japan, 1876; and a manuscript thesis by Osam Nagura, 1880, Stillé Library, University of Pennsylvania.

NOTES OF HOSPITAL PRACTICE.

HOSPITAL. COLLEGE OF MEDICINE, LOUISVILLE, KY.

CLINICAL SERVICE OF DUDLEY S. REYNOLDS, M.D., PROFESSOR OF OPHTHALMOLOGY, OTOLGY, AND LARYNGOLOGY.

Reported by ALLEN KIRCH, M.D.

OPHTHALMIA NEONATORUM.

GENTLEMEN,—I wish to call your attention to that form of disease of the eyes which attacks new-born infants,—*ophthalmia neonatorum*. It has long been an established fact that a peculiar form of inflammation manifests itself in the conjunctival membrane of infants from the third to the tenth day after birth. Attacks of inflammation may occur, it is true, after that time has elapsed, but not such as are supposed to be directly connected with birth itself.

Occurring, as it most frequently does, as a muco-purulent form of disease from the beginning, occasionally as a violent purulent inflammation, many theories have been advanced as to its probable cause. Not a few of our best practitioners maintain that it proceeds from gonorrhœal infection, occurring in the passage of the child through the vaginal canal. While this might take place, it cannot be considered the principal cause; for too many instances are known wherein the mother had no vaginitis, and where the infant has not been afflicted until after the first week following birth. Many instances occur in which the cause of the disease is in no way referable to the mother's condition.

The muco-purulent affections, it is thought by some, are due to the presence of a milder or chronic form of vaginitis in the mother; and, while this may be true, the proposition manifestly does not apply to all cases. Nearly all writers ascribe both the muco-purulent and the purulent form of conjunctivitis to the early and sudden exposure of the child's eyes to light. It is a popular prejudice among midwives and among people in the lower walks of life that an infant will have sore eyes if in the first day or two of its independent existence it has looked out into the light or upon the light of the fire. Whilst the effects of light upon the eyes of new-born infants may be highly irritating, light alone has not the power to produce a muco-purulent inflammation of the conjunctival membrane; much less has it

the power to produce a dangerous form of purulent inflammation. Therefore you are not to believe that anything less than a specific virus, transported, it may be, in the air, by the hands of the nurse, in a wash-rag, a sponge, or perchance produced by the direct contact of purulent material in the genital passages of the mother, is adequate to the production of the purulent and muco-purulent inflammations to which we now refer.

There are regions of the earth, particularly in warm climates, where muco-purulent inflammations occur at regular seasons of the year, and prevail to such an almost universal extent that travellers conclude that everybody has sore eyes. This form of conjunctival disease is one of the manifestations of malarial poison. But muco-purulent inflammations affecting the eyes of infants are not likely to be due to malarial causes. But that such inflammations are frequently due to poisons transported by the air is undeniable. In vain it may be argued that the entire family have enjoyed an immunity from the ordinary manifestations of atmospheric poisons until the advent of this child, who is seized with a muco-purulent conjunctivitis. No principle perhaps is better established than the fact that poisonous air may be limited to an extremely small extent of territory. It may be restricted to a single chamber, and even to a single corner of that chamber; it may be confined to the sick-room alone. On the other hand, it may pervade a whole neighborhood, region, city, or State. That decomposing substances, as animal and vegetable matter, may have something to do with the production of muco-purulent inflammation is probable, because any inflammation may develop a condition favorable to the production of mucus in such quantities as to insure its degeneration into pus. We have already seen that catarrhal inflammations may be aggravated in severity until they pass through the various grades of intensity to purulent inflammations; but if the disease began as a purulent form it is certain that some specific cause must have operated in its production. Those cases that begin with violent symptoms are to be set down as due to some kind of specific contagion, whether floating in the air or transported in some unknown way, the exact mode being not always determinable. Bearing in mind now, gentlemen, how delicately

the mucous structures of the eye are organized, you will readily recognize the importance of delicate manipulations in the methods of treatment. You all recognize the fact that, if the formation of pus continues, the greatest care must be exercised if you would prevent its confinement in direct contact with the eyeball, and especially the cornea, which is extremely soft and susceptible to the action of heat and poisonous pus. If this continued contact be permitted, the cornea will be seen suddenly to become hazy, and may in a few hours slough away. Therefore it is a matter of great importance that the parts should be kept in a condition to allow the accumulating secretions a free mode of exit. To do this, it is necessary to apply some kind of ointment to the lids after thorough cleansing; and the question then arises, What shall we prefer to prevent the adherence of the lids?

A long experience has demonstrated to me the superiority of a solution of chloride of sodium as a cleansing agent, the solution to vary in strength according to the previous duration of the disease. During the early manifestations it should be extremely weak; but let me beg you, gentlemen, just here, to be not guilty of carelessness in writing your prescription for an agent, even though it be so simple as chloride of sodium. Two grains to the ounce of water is usually sufficient, with directions to drop it into the inner angle of the eye, allowing it to flow out upon the temporal side. The tears and matter having thus been washed away, and any surplus moisture removed by a wad of absorbent cotton pressed against the eye lightly, vaseline is perhaps the best preparation in the form of an ointment to be applied to the surface and edges of the lids. If great care and attention be not bestowed upon an affected eye, and cleansing measures resorted to sufficiently often to prevent the accumulated fluids from being retained between the lids and the globe, destructive changes will be liable to occur, and that, too, with astonishing rapidity; and even after a patient has wellnigh passed the dangerous stage, a neglect of these precautions will entail the dangers of relapse. Relapses occur so suddenly and with such violent symptoms as to lead to the destruction of eyes that a few hours before seemed to be out of danger. Therefore you are to regard with constant anxiety the pres-

ence of pus upon the conjunctival membrane.

I was very much surprised to read in a journal a year or two ago an article from the pen of my friend Prof. Smith, of Detroit, in which he uttered the strongest condemnation of the habit of frequent applications to the eyes of new-born infants affected with the more violent forms of purulent inflammation. It was argued by this gentleman that the proper thing to do is to anoint the edges of the lids and then disturb them not oftener than twice in twenty-four hours. I cannot help thinking his experience must have been limited, or his nurse disobedient to instructions, or the cases treated thus of the mildest type. Of course he reported successful results.

To the shame of the medical profession, it is urged by many that nitrate of silver in solution, in strength from ten to sixty grains to the ounce of water, must be applied to the everted lids of infants thus afflicted. That such practice is followed by fatal results may be testified to by any practitioner of ordinary experience; that it is attended by uniformly bad results is attested by the fact that, while ten or fifteen years ago it was the fashionable practice, it is now almost wholly discarded by the profession in general, while those of large experience with this class of cases have almost entirely excluded it as an agent for local application to the conjunctiva. MacNamara recommends the instillation of a three-grain solution of nitrate of silver between the eyelids every three or four hours, and in urgent cases every two or three hours. In addition, he directs the daily application of a saturated solution of silver to the external surfaces of both lids.

The application of a saturated solution in one melancholy instance that came under my notice was followed by sloughing of the upper lid.

It has been stated upon high authority that a ten-grain solution brushed with a hair pencil over the lining of the lid produced universally successful results. A careful examination into the statements of this authority revealed the fact that many cases were lost sight of after a single application; and in one instance occurring in this gentleman's practice it is known that the cornea sloughed *en masse*, the case being reported recovered, when it should have been reported "lost sight of."

In the treatment of conjunctival inflammations the greatest tenderness is necessary, and the mildest and most soothing agents should be employed. A two-grain solution of chloride of sodium, applied as I have detailed, needs only to be substituted by the stronger salts when the disease tends to become chronic. After two or three days, if the disease shows a disposition to remain severe or to proceed in opposition to this treatment, the lid should be everted, and if there is present, as will usually be found to be the case in these instances, a disposition to hypertrophy of the papillæ, an astringent solution then becomes necessary, and for that purpose the sulphate of copper—five grains to the ounce—may be applied once in twenty-four hours. This solution coagulates the mucus and pus, which then becomes irritating, acting as a foreign body upon the surface on which it lies, and therefore it should be promptly removed. Next in order may be mentioned the borate of soda, which, besides having the power of dissolving fibrinous matters, is more astringent and less stimulating than the chloride of sodium. In the more advanced stages, where hypertrophied papillæ are present and have existed for perhaps weeks, it may become necessary to make even more powerful applications than those to which I have alluded. In that case the application should consist of a saturated solution of the muriate of ammonia, or the solid stick itself applied to the surface of the everted lid and to the retrotarsal folds.

The sulphate of copper should not be used in the solid form, but in solution, varying in strength from five to ten grains to the ounce of water, and, while it cannot safely be used more frequently than once in twenty-four hours, the ammonia can be used with impunity several times in that period.

If there be haziness of the cornea, sulphate of copper, in any form or strength, should be rigorously avoided. Should it be used, the ulcerated cornea is liable to perish in consequence of the affinity copper has for the water of soft structures. It is a powerful astringent, and vessels partially contracted become completely so under its application. Very cold applications are advocated. I think it is a safe rule to be guided by, to consider cold inadmissible when there is much swelling of the lids, and hot applications likewise not

indicated if swelling be absent. In other words, you are to remember that cold will prevent inflammatory reaction, and that when once the inflammation has occurred the surrounding tissues are infiltrated and cold is no longer indicated. It often happens in the purulent ophthalmia of newborn infants that extensive infiltration occurs into the loose connective tissue of the lids. The upper lid becomes enormously swollen, of a scarlet hue, and there may be such violent action as to develop what is known as a phlegmonous inflammation, the upper lid assuming a scarlet and angry appearance, being so tumefied, firm, and hard as to present the appearance of a huge mass of raw flesh hanging upon the cheek. Of course this is a condition found in extreme cases only, though it is by no means rare, and it tends greatly to complicate the conjunctival inflammation, as well on account of the mechanical obstruction it offers to proper medication as because of the mechanical pressure upon the inflamed structures beneath. In such a state of things, of course, the cornea must soon perish unless something be done to relieve the pressure and expose it to the air. That the cornea may slough under these circumstances constitutes the chief danger. Those cases attended by this condition, which prevents your inspection of the eyeball, are to be met, and met promptly, by surgical interference. A pair of scissors should be at once passed into the external canthus, and the tissues divided freely out to the temporal margin, after which the bleeding may be encouraged by warm applications. The serum and blood escaping, the swelling will be found to subside quickly, and, a restoration of the circulation being established, improvement soon becomes manifest. A wound in all respects identical with that made in the operation for canthoplasty remains, and this finally closes, leaving no visible scar. No fear of cutting must be indulged in these cases, offering as it does the only means of relief from local pressure: so long as pressure is exerted upon the eyeball, there can be no benefit from any treatment. Another precaution to be taken is that the child should be exposed to pure fresh air. It often happens that children lose their eyes through the carelessness of the nurse in this respect; especially is this apt to happen in cold weather, when the doors and windows are kept closed. The air of the

lying-in chamber is always contaminated, and the infant should spend most of its time in another room. A good nurse understanding this will be able to accomplish all that is necessary. Lastly, a strict watch is to be kept upon the progress of these cases. They should be seen once, at least, every twenty-four hours. Attention to the manner I have detailed, assisted by good judgment founded on general principles to meet any conditions of minor importance that may arise in the progress of a case, will be attended by a degree of success as satisfactory to the parents interested as it is gratifying to your professional pride as a successful practitioner.

TRANSLATIONS.

EXPERIMENTS IN THE RESTITUTION OF SEPARATED PIECES OF BONE.—Jakimowitsch (*Cbl. f. Chir.*, October 8, 1881; from *Deutsche Zeitschr. f. Chirurgie*) says that as yet experiment has shown only that bits of flat bones, when entirely separated, may grow again; regarding bits of long bones, only one successful case of re-growth has been reported, with many failures. In order to ascertain whether, in fact, bits of long bones grew again readily, or at all, when entirely detached, Jakimowitsch made some twelve experiments, of which ten were crowned with success. These experiments were made in various ways. With a chisel, or more frequently with a saw, flat or wedge-shaped bits of bone of considerable size were removed, after raising the periosteum, and either replaced as before, at once, or turned upside down, so that the cortical face should lie next the medullary cavity, etc. The entire operation was performed with strict antiseptic precautions, the pieces detached being washed in carbolic acid. After their replacement, the periosteum, which had been turned aside meanwhile, was fastened in place with catgut, and the extremity then enveloped in salicylated cotton, which was firmly held in place by means of a gum bandage. Finally a plaster-of-Paris bandage was applied over the whole, in order to attain the most perfect fixation possible of the loosened piece of bone. That the latter was firmly held in place was made sure by three means: 1, by injection of its vessels with blue gelatin solution; 2, by

microscopic examination; 3, by feeding the animal for a long period with madder.

Jakimowitsch formulates his conclusions essentially as follows. Bits of bone from the diaphysis of the long bones, which have been removed and replaced, will grow again if soon returned to their former relative position with the rest of the bone. They then form a living part of the original bone. The same occurs when the extracted piece of bone is replaced inside out. A piece of bone separated from all connection with its original locality and pushed into the marrow of the long bone may become incorporated with the inner surface of the latter, and with the callus which under these circumstances forms within the medullary tissue. The replaced bits of tibia in young dogs functionate, as the result of feeding on madder shows, in the peculiar manner of these bones, in particular in the growth in thickness.

In a further series of experiments the fate of exsected bits of bone or entire bones after transplantation into the soft parts, or to other bones, was studied. It was found that bits of bone taken from the long bones and transplanted into soft parts became partly encapsuled without any alteration in their structure taking place; in part, however, they became dissolved in an adventitious tissue rich in cells by the penetration of vessels. A piece of the phalanx from a rabbit, which was transplanted with its articulating surface applied to the outer surface of the femur of another rabbit, grew so firmly in this position that it presented the appearance of a natural outgrowth from the femur. A piece of the phalanx of a rabbit grew in part to the skull of a dog by newly-formed bony material, and was in part absorbed. The success of these experiments depended upon the entirely antiseptic course followed by the wound.

CONTRIBUTION TO THE STATISTICS OF CARCINOMA (EPITHELIOMA) OF THE LOWER LIP.—Koch (*Cbl. f. Chir.*, 1881, No. 40; from *Deutsche Zeitschr. f. Chirurgie*) has collected statistics of all the cases of carcinoma of the lower lip operated upon in the Erlangen clinic between 1860 and 1880. He gives one hundred and forty-eight cases, of which two were operated upon by Thiersch previous to 1860. Of the latter, one died seventeen years after the operation without having had a relapse. The others still live. Of the remaining

one hundred and forty-five cases, one hundred and thirty-two were men and thirteen were women. The cases were all, with one exception, between sixty and seventy years of age. The exceptional case was over eighty. In fifteen cases some injury was referred to as the cause of the disease, —sometimes a direct blow, in other cases burns, as from an inverted cigar, in others chaps and fissures. In six cases the pressure of a pipe was supposed to have been the cause. In eight cases the patients had suffered with tumors. One hundred and thirty-one lesions were primary, fourteen were relapses. The duration of the lesion varied between fourteen days and nine years. In two cases it was referred to injuries which had occurred respectively twenty-five and thirty-six years previously. Leaving these two last cases out, the average duration was 1.9 year. In forty-eight cases there was enlargement of the lymphatic glands; most frequently the submaxillary glands of one side were those involved (fourteen cases). The diagnosis of carcinoma of the glands was made out for certain only in seven cases. Of the one hundred and thirty-one patients, one hundred and fifteen were cured, four were not cured (*i.e.*, suffered from relapse at the point operated upon), and twelve died, of whom seven had shown the propagation of the carcinoma to the submaxillary glands. Metastases to other organs were not found in any autopsies. The later history of one hundred and six cases is known. Of these, fifty-three are dead, —twenty-three from relapse of the affection, thirty from other diseases. Of the forty-three survivors, three, when looked up, showed relapse of the carcinoma, while thirty-nine remained free. If the cases are looked at from the point of prognosis, it is seen that thirty-six ran an unfavorable course, while twenty-eight ran an absolutely favorable one (over five years without relapse). Four of these went on for twelve to sixteen years without showing a sign of relapse, sixteen ran a relatively favorable course (three to five years without relapse), while twenty-five ran an as yet undetermined course. Of the fourteen patients operated upon for relapse (one had not suffered the relapse until ten years after the first operation), only four are living and without relapse, one as long as three years.

THE TREATMENT OF FURUNCULOSIS BY BORACIC ACID.—Dr. Loewenberg (*Le Progrès Médical*, 1881, p. 658), regarding the

furuncle as due to the invasion and multiplication of a parasitic microphyte, abandons, of course, all the old-fashioned forms of treatment based upon an erroneous view of the pathology of the affection. Above all he recommends abstention from the use of emollients, poultices, etc., which serve merely for the purpose of supplying that moisture and heat which are most favorable to the germination of the parasites, besides furnishing aliment for their sustenance. The problem being given to neutralize the evil influence of the micrococcus, the question is, what agent will best serve this purpose while not injuring or irritating the organs on which it must act? Thanks to the researches of J. B. Dumas, we now possess a substance—boracic acid—which fills all requirements. Boracic acid is strongly toxic for inferior organisms, which it kills by depriving them of oxygen, while at the same time it possesses the great advantage of not irritating the organs with which it is brought into contact,—the bladder, for example.

Dr. Loewenberg prefers boracic acid, although he admits that it is quite possible that other antiseptic agents—as benzoate of sodium, resorcin, etc.—would serve the same purpose. He incises the furuncles if they are not already open, so that the antiseptic agent may be brought directly in contact with the focus of infection. The incision should pass through the centre of the furuncle (generally marked by a hair); and, in order to prevent pain, ether spray may be thrown against the spot. The incision made, Dr. Loewenberg immediately applies fomentations with an aqueous solution of boracic acid saturated in the cold. Latterly he has used alcoholic solution of boracic acid, the alcohol itself constituting an excellent substance for combating the action of the micro-organisms. In one case, where the furuncle was recent and where the patient absolutely refused to have an incision made, it was observed that simple fomentations with boracic acid resulted in the arrest of development of the inflammatory process. Dr. Loewenberg thinks this was because, in the early stage of the furuncle, the hair-follicle leading down to the focus of infection was not yet closed, and offered an opening for the entry of the antiseptic. Perhaps a good plan would be to inject a few drops of the solution directly into the follicle before the full development of the furuncle. Be-

lieving auto-inoculation possible, Dr. Loewenberg is in the habit of sealing each furuncle with a pledget of charpie soaked in the boracic-acid solution, either aqueous or alcoholic. He also insists upon the most scrupulous cleanliness, with the view of preventing pus from the suppurating furuncles being carried to new points and inoculated through the hair-follicles. Powdered boracic acid is also regarded by Dr. Loewenberg as an admirable dressing for open furuncles.

NOCTURNAL HALLUCINATIONS AND TERRORS IN CHILDREN AND ADOLESCENTS.—Dr. F. L. Debacker, in his thesis on this subject, concludes as follows:

There are two essentially distinct kinds of hallucinations and nocturnal terrors,—one of non-cerebral, the other of cerebral origin. The first are usually produced by gastro-intestinal indigestion from various causes, difficult dentition, intestinal worms, constipation, diarrhœa, excessive emotion, etc. The second depends on past affections of which the traces have remained and show true cerebral lesions. Such are the nocturnal terrors and hallucinations of convalescents from typhoid fever and pneumonia, and also those who are suffering from exhaustion. They constitute a category by themselves, which might be designated by the name of delirium from general inanition.

Other hallucinations and terrors are the symptoms of present cerebral maladies. Their chief characteristic is their persistence. This is the case with the idiocy, the delirium of persecutions,—the dementia, in a word,—of children.

A third category, again distinct from the others, is that of hallucinations and terrors prodromal of future cerebral disease, under which may be ranged all the candidates for insanity. Heredity ought to be examined into with especial care in these cases. Tuberculous meningitis, epilepsy, hysteria, idiocy, must be apprehended, especially in precocious children,—the protopathic hallucination of Luys. Finally, other hallucinations and terrors occur which cannot be comprised under any class: these are the cases where these symptoms are due to the effects of various poisons.

The physician, called to see a child whose nocturnal terrors have alarmed the parents, should go over in his mind all the causes above mentioned. Most frequently he will have to deal with an affection of

the first class, some gastro-intestinal disorder easy to do away with, and the diagnosis will be confirmed by the cessation of the nocturnal terrors when constipation is overcome, or diarrhœa checked, worms expelled, or pruritus of dentition cured. In addition, however, the physician must examine as to the existence of hereditary alcoholism, abuse by the nurse, saturnine encephalopathy, absorption of belladonna, opium, or quinine, etc. If, however, the nocturnal crises persist, the physician must be on the lookout for an outbreak of some serious disorder. Hygienic measures are to be carried out with great care.

QUEBRACHO: THE PRESENT STATE OF OUR KNOWLEDGE OF THIS DRUG.—Dr. Franz Penzolt, whose name is identified with this drug, the good qualities of which have been the source of some dispute, comes forward with some new facts regarding it in a brochure analyzed in the *Deutsche Med. Wochenschrift* for September 17. The differences of opinion which have come to light relative to the effects of quebracho have arisen, in Penzolt's opinion, chiefly from the employment of various drugs—some of less active character—under this name. Under the name quebracho, the bark and wood of very various trees are met with in the market. Hansen enumerates four different plants from which quebracho preparations are derived; while Stuckert asserts that there are even several more woods known under this designation. Two kinds only are of practical interest at present,—1, Quebracho blanco (*Aspidosperma quebracho*); and, 2, Quebracho colorado (*Loxopterigium Lorenzii*). With the bark of the first Penzolt made his earlier experiments. Later he experimented with the wood of the *Loxopterigium*. He now speaks in the first place of the bark of the *Aspidosperma*. Two varieties are in the market,—a quebracho blanco bark from Córdoba and one from Saltá. The wood and bark differ externally. The bark from Saltá is the best, on account of the greater amount of alkaloids which it contains. The results of recent researches, as well as the assertions of other authors, confirm Penzolt's views as to the value of quebracho blanco bark. In idiopathic and symptomatic asthma (the latter cardiac, renal, emphysematous, or pleuritic in origin), Penzolt recommends it in one to two teaspoonful doses of the extract thrice daily. That

quebracho is infallible Penzolt does not assert; but he does insist that it is preferable to narcotics, iodide of potassium, digitalis, etc., in certain cases.

As to the effect of the alkaloids of quebracho, Penzolt draws attention—in addition to aspidospermin, which he has used for some time with good results—to quebrachin, a new alkaloid discovered by Hesse. He believes these alkaloids to act by giving the blood power to take up more oxygen than under normal circumstances. The explanation of the toxic effect is as yet hypothetical.

Quebracho colorado is not so active as quebracho blanco, but it is cheaper. Penzolt says that alkaloids are not found in the wood, and only sparingly in the bark.

LATENT MENINGITIS, ACCOMPANYING PNEUMONIA.—Firket, in a brochure reviewed in *Le Progrès Médical*, 1881, No. 39, says that the meningeal complications of pneumonia, especially acute meningitis, have long engaged the attention of pathologists. An epidemic of cerebro-spinal meningitis occurring in Germany in the year 1863 caused attention to be drawn to the relations between affections of the lungs and those of the meninges in general, and a number of papers have since then been published upon the subject. An interesting feature in these cases is that the meningitis of pneumonic patients rarely shows itself with the well-marked features of spontaneous meningitis. Frequently the affection passes unnoticed, or at least the nervous symptoms manifested are not sufficiently well accentuated to establish the diagnosis. Dr. Firket has observed, in the post-mortem room connected with the University of Liège, three cases of this character remarkable for the complete absence of symptoms. The cases were those of pure croupal pneumonia. No symptom had called attention to the cerebro-spinal nervous centres, but nevertheless in all three cases the autopsy showed an already purulent exudation in the cerebral meninges. The lesions were superficial, the membranes being detached without difficulty from the cortical layer, which was not involved. In the cases reported by Firket, not only were alterations observed in the meninges, but also, depending on the nature of the case, in the pleura, the pericardium, and the endocardium. Dr. Firket seeks to show a relationship between these various symptoms and to

find out what is the link which connects them. He believes them all to depend upon a general infection,—possibly by microscopic parasites. He says that meningitis occurs once in every two hundred to two hundred and fifty cases of pneumonia.

THE TREATMENT OF BURNS.—In a recent lecture, Nitzsche (*Deutsche Medizinische Zeitung*, 1881, No. 2), who, as surgeon to a very large iron-works, has many opportunities of studying the effects of various remedies in severe cases of burns, describes his method of treatment. He first disinfects the burned surface thoroughly with carbolic acid, having previously protected the blebs, and then covers it with a thick varnish of linseed-oil and litharge, which has been mixed with five per cent. of salicylic acid by the aid of heat. So soon as the first coating of this varnish is dry, a second is laid on, and the parts are then covered with a thick coating of wadding, kept in place by an elastic bandage, so as to exercise moderate compression. Ordinarily no change of dressing is required, the healing process going on uninterruptedly. When suppuration does occur, the upper layers of the wadding are removed and dry powdered salicylic acid is sprinkled over the surface, a fresh layer of wadding being then applied over this.

TREATMENT OF DIPHTHERIA BY CYANIDE OF MERCURY.—Dr. Rothe (*Deutsche Med. Wochenschrift*, 1881, p. 467) reports thirty-four cases of diphtheria successfully treated. He uses the cold pack, hourly changed, thrice daily, rapid pencilling of the gums, etc., with the following:

℞ Acid. carbolic., pt. j;
Spir. vini gal., pt. j;
Tincturæ iodini, pt. j;
Glycerinæ, pts. v.

Internally, the following:

℞ Hydrarg. cyanid., centigr. 0.01;
Aquæ destillat., grm. 120;
Tinct. aconiti, grm. 1. Misce.

Sig.—Dessertspoonful every hour. For young children the dose is to be proportionally diminished.

TREATMENT OF CYSTS.—E. Schilling (*Allg. Med. Central Zeitung*) recommends, for the removal of cystic tumors where the cyst-wall is so thin that it cannot be removed by the knife without great difficulty, injections of solution of chloride of zinc (one part to five parts of water). The cyst is first opened by means of a long incision,

and, the soft contents having been squeezed out, a few drops of the solution of chloride of zinc are injected by means of a syringe. The reaction is slight. In one case Schilling squeezed out the macerated cyst without difficulty at the end of six days.

TREATMENT OF ERYSIPELAS BY COLLODION.—Darlan (*Thèse de Paris, Bull. Gén. de Thérap.*, vol. ii., 1881, p. 239) brings forward this treatment again. He says that it prevents the spread of the disease and lowers the temperature. The good effects seem due to its compressive action, which interferes with septic absorption. The affected part, especially if a limb, should be surrounded by a zone of flexible collodion, which should be painted on fresh daily. The usual treatment is to be simultaneously pursued.

POWDER IN MIGRAINE.—

℞ Quinidiæ sulphat., gr. xxiv;
Caffeini,
Acidi tartarici, aa gr. xvj;
Morphiæ, gr. viij;
Sacch. alb., ʒijss. M.

Powder, and divide into five equal parts, —one to be taken morning and evening alone or in a cup of coffee without milk.

EXCISION OF CHANCRE.—At the recent International Medical Congress, Dr. Louis Jullien presented a paper in which he related some experiments he had made in the excision of chancres for the prevention of systemic infection. His conclusions were as follows. 1. The excision causes no local trouble: the wound, perhaps, heals a little slowly. 2. Under certain circumstances, excision suppresses all subsequent manifestations. 3. In cases where it fails to do this, its operation is still advantageous, the subsequent disease being milder and more slowly developed.

SMALLPOX AND ANTI-VACCINATORS.—The wickedness of encouraging the anti-vaccination agitation could not, it is opportunely pointed out by the *Globe*, be more strikingly proved than by an account it printed of the origin of an outbreak of smallpox in Roth-erithe. "A leading anti-vaccinator," Escott by name, who had had none of his children vaccinated, has lost his wife and two children by smallpox, and four others have had the disease. Escott borrowed a suit of mourning from a friend named Angus, to attend his wife's funeral, and returned the clothes without disinfection, with the result that the lender caught smallpox and died. Since then, nearly every house in the neighborhood has been attacked, and sixteen patients have been removed to hospital.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, DECEMBER 3, 1881.

EDITORIAL.

MEDICAL REGISTRATION ACT.

IN a recent editorial we criticised the charge made by the college faculties of this city for endorsing the diplomas of graduates of medical schools outside of the State who desire to practise in the State. Further information has led us to modify this opinion, and we now believe that our medical schools are justified in exacting this fee, if, as we are informed, they so read the law that they consider themselves bound to give a formal examination before endorsing any medical diploma. This reading is probably a correct one, although the law is expressed so badly that no one can say with certainty what is meant, unless he be indeed a judge in the court of last appeal, or perhaps the whole bench of judges.

The section reads,—

"Any person who may desire to commence the practice of medicine or surgery in this State after the passage of this act, having a medical diploma issued, or purporting to have been issued, by any college, university, society, or association in another State or foreign country, shall lay the same before the faculty of one of the medical colleges or universities of this commonwealth for inspection; and the faculty, being satisfied as to the qualifications of the applicant and the genuineness of the diploma, shall direct the dean of the faculty to endorse the same, after which such person shall be allowed to register as required by Section 2 of this act."

Supposing the interpretation of this section adopted by the medical faculties is correct, what can be said of the ignorance, carelessness, or culpability which has thus given over the profession, bound hand and foot, to the medical colleges? Any proper legislation must recognize the fact that the interests of the colleges and of the profession are antagonistic, whilst those of the profession and people are in accord. The interest of the profession, in its present overcrowded condition, is that as few men

as possible shall enter it; and the interest of the people, that these men shall be thoroughly prepared. The profit of the schools is found in opening wide the doors, calling in the crowd, and rushing through the mass who pay professors but do not learn their profession. As well give to the lamb the wolf for protector, as to frame, for the good of the people and the good of the profession, a law which strengthens the medical colleges and enables them with more *éclat* and ease to send into the community those who have paid their fees and know nothing.

The section of the act under discussion is further injurious to American medical interests in that its tendency is to check the growth of great medical schools, where acknowledged excellence of teaching and difficulty of attainment shall give value to the diploma and draw men from all parts of the Union. If one State adopts such a law, others certainly will follow. We believe that in Alabama a similar act exists. In that State there may be some petty medical schools unknown to us, but the only one reports of whose existence have come to our ears is one in Mobile,—a chartered institution of the lowest class. Yet, forsooth, the diploma of Harvard University must be revised by its faculty! We do not mean to reflect in any way upon the action of this faculty. But suppose it were composed of dishonorable men. What a power is placed in its hands to force students of medicine to enter its halls rather than the great distant metropolitan schools!

There is one mass of evidence which, if the United States government could only be induced to publish it, would, we believe, make such an outcry as to lead at once to proper legislation for the protection of the community from the colleges. We allude to the reports of examinations, during our war, for the position of Assistant-Surgeon of Volunteers.

This subject of medical education has

been written upon *ad nauseam*. But surely the State Medical Association ought to listen a little longer,—even ought to tarry until it can appoint a committee who shall see that a medical act framed by the Legislature is not so framed as to injure rather than benefit the profession.*

INDEX MEDICUS.

THE editorial which appeared in a late issue of this journal upon the Index Medicus seems to have answered well its purposes in stirring up the subject and calling support to the journal. Among other results, it has brought a letter to us from the publisher, which, in order that attention may be attracted to it and any possible injustice avoided, we insert in this editorial column.

TO THE EDITOR OF THE MEDICAL TIMES, PHILADELPHIA, PA.

DEAR SIR,—Allow the publisher of the Index Medicus to thank you, on behalf of that publication, for your earnest and timely words in the *Medical Times* of November 5; but, lest some of your remarks may be misinterpreted, allow him also to state, in justice to those concerned, that the reproach of "has done nothing" cannot properly apply to the cities of New York and Boston. It is true your remark only refers to the work of the organizations, in which Philadelphia has so prominently taken the lead. But, while New York and Boston have not yet succeeded in carrying out the Philadelphia plan of co-operation, it should not be overlooked that (a fact of which you evidently were not aware) the *individual* support in both cities has been proportionately more than that of any other place. Boston in particular has distinguished itself by a number of liberal private contributions. The following is an approximate percentage of support, representing subscriptions, contributions, and appropriations:

United States (exclusive of other mention, as specified below)		27½
New York City		22½
Boston		16
Philadelphia		12½
Government departments		11½
Foreign countries		10
		100

This schedule shows that (Philadelphia and the Government departments excepted) Boston and New York alone contribute more than all the rest of the world.

The publisher, however, agrees with you that, although "the ordinary general practitioner may not have much im-

mediate use for the Index, to the literature of the profession the book is an immense necessity;" and, on this very ground, he has addressed his last appeal to representative bodies rather than to individuals. If the main object of medical organizations is the furtherance of medical interests, in obtaining by association and co-operation what is not within the scope of individual efforts, then it is within the province of the medical societies to bear a share in the support of a publication which, although of direct use only to a limited number of workers, becomes, through these very workers, a practical benefit to the whole profession. As these individual workers already pay their full share toward the support of the publication, the *society* is only approached in order to give its members the opportunity for contributing that mite which may be temporarily required to make up the sum total, and which no one will refuse who has the furtherance of medical interests enough at heart to belong to a medical association. And no one who has the furtherance of medical interests at heart can to-day be unaware of the existence and significance of the Index Medicus, so thoroughly has the publication been brought before the profession, particularly through the medical press in the United States and England. The Index Medicus is, as you say, "a necessity" which, if not provided for by the present generation, must be met sooner or later. It is a credit to this country that it has laid the foundation; but the credit will belong to that country which will support the permanent structure.

Yours truly,

F. LEYPOLDT.

Of course we had no way of knowing how the comparative individual subscription-lists stood. It is plain that Philadelphia physicians should be incited to subscribe more widely, and that societies in other cities should also be stimulated to do their duty. In one point we are forced to differ with Mr. Leyboldt, and that is as to the advertisement of the Index Medicus. Europe ought to pay half the bill of support at least; but it does almost nothing,—largely, in our opinion, because the Index has not been properly made known. We have talked with medical men of world-wide renown abroad, and found them ignorant of the existence of the journal,—in part, no doubt, the result of their own lack of enterprise. But the publisher should see that men know of the Index, whether they are purblind in the direction of America or not.

THE YOUNG DOCTOR IN PUBLIC CHARITIES.

ONE of the pitfalls which beset the young practitioner at the beginning of his career is that which takes the spe-

* Since the above was written, we learn that the University of Pennsylvania has decided not to examine as to the qualifications of would-be practitioners, but simply to give a letter as to the genuineness of the diploma, and for this service to exact no fee. Upon such a letter the prothonotary of this city has allowed registration. The Jefferson Medical College still, we believe, adopts the course spoken of in the editorial.

cious guise of an appointment as physician to some public institution of a charitable nature. Well-meaning friends suggest the advantageous character of the position of attending physician to the "Rheumatic Home," and the young doctor, fondly dreaming of the influence which he may gain in the board of lady managers by his assiduous care of the unfortunate inmates, and of possible openings in practice accruing therefrom, permits himself to be nominated to the first vacancy left by some older and wiser man. Now his troubles begin. Summoned at odd times for the relief of a bronchitis or neuralgia, he prescribes with satisfaction to himself and more or less benefit to the patient, and all goes well for a time. Suddenly, however, a graver emergency arises. A case of mild and typical typhoid fever appears. He calls, prepared to give the usual and formal directions, and finds himself confronted with the visiting-committee of old ladies, to whom his diploma and hospital residence count little in such a serious case. He is beset with suggestions, and scarcely leaves without the insinuating remark being made that it might be advisable to call in an older man. Perhaps, and most likely, he yields. Dr. Jones, the family doctor of the President, is duly called, and confirms diagnosis and treatment; but the young man's prestige, or what he supposed to be such, is gone. He sinks to a lower level than the nurse. The consultant is waylaid for his opinion and is called upon at his office, and the poor attendant's occupation is gone. Or he decides, with hardy reliance on his own skill, to go on without consultation. Worse then is his fate, for behind his back go on consultations worse—far worse—for his reputation than the open one which was the alternative. Finally, most likely, a consultation is forced upon him, and he is in the humiliating position of nominal physician attendant, but only to be trusted when there is nothing much the matter.

What young man recently started in practice, and who has unwarily gone in for a position in a "home" or "institution," could not give account of such humiliations passed through? Within the past few months a case has come under our notice in which the physician to a home passed an applicant as free from contagious disease, who was incontinently turned out of the institution neck and heels the next day because the *matron* "thought he had ringworm."

Theoretically, the physician gives his valuable services in these cases to the sacred cause of charity; practically, he goes out for wool and comes home shorn. The ladies, who from various more or less exemplary motives devote their spare moments to running charitable institutions, class the young aspirants for medical positions in the same category with the colored practitioner who bore upon his cellar-door shingle the legend, "Dr. Cæsar Smith, Physician and Surgeon, and *very good in mild cases*." To the young physician contemplating the assumption of such a position, with the delusive hope of enhancing his reputation or getting a foothold in the families of the managers, or in any other way bettering his fortune or improving his prospects, we would say, Pause and reflect. Under the pretence of attending the poor and afflicted for charity, you are about to make an honest effort to improve your professional position. Your motives are judged by those to whom you apply at their true value, and you may rely upon it that you will not be permitted to make anything out of your position which will render it worth your while to occupy it. Disappointment, and perhaps humiliation, await you. Better to go in honestly for some position where you can frankly pursue your object, whether it be study or practice, and postpone until your waiting-room is crowded with patients the offer of your gratuitous services—then of a real market value—to the cause of charity.

LEADING ARTICLES.

THE ROYAL HOSPITAL FOR CONSUMPTIVES, AND THE CLIMATE OF VENTNOR, ISLE OF WIGHT.

(Continued from page 139.)

THE hospital is composed of eight blocks of handsome houses, two in each block, and sixteen in all, a fine church standing in the centre. Each house has spacious accommodations for six patients, each patient having a comfortable room. The houses are three stories high, the two upper stories being composed of chambers all of which face to the south. In the rear they open upon a passage-way or hall. Upon the lower stories are dining- and sitting-rooms and offices. The only communication between the houses is a sub-way which runs from end to end and by means of which each block is supplied from the one general kitchen. Externally two balconies extend from one end to the other on the southern side and facing the sea. The chambers open upon the balconies by means of French (swinging) windows. The lower balcony is roofed by the upper, and affords a sheltered promenade for patients on rainy days. The grounds comprise one hundred and twenty acres, six of which are devoted to lawn and garden and are very charming. The remainder serves the purpose of raising vegetables for the use of the hospital. Patients have all the comforts and conveniences of home, in the place of being congregated in wards in one large building and subjected, in consequence, to the depressing influences to which allusion has already been made.

Queen Victoria is patron of the hospital, and has been a liberal contributor to the fund of the charity. The first block was completed in 1869, and the corner-stone of the second was laid by the Princess Louise on behalf of her mother, and opened to patients in 1871. In some instances a house has been built and fitted throughout at the expense of one person; and these houses have been named after their donors. In connection with the hospital is a commodious hall, used for entertainments.

The annual amount required for the maintenance of the hospital is £6000 (about \$30,000). This amount is secured in part by voluntary subscription, in part by the weekly payment of each patient (10 shillings, or \$2.50). This insignificant

fee is raised for patients who have no means by their friends or by societies of which they are members. This is a wise arrangement, for, without excluding even the very poor, it not only adds to the income of the hospital, but spares patients the injurious effect which is exerted upon human beings by all charities.

On entrance, each patient is required to pay a guarantee fee of one pound, and the weekly stipend is paid four weeks in advance. Unless any portion of it be forfeited for damage done, the guarantee is returned when the patient leaves the hospital.

All patients are obliged to bring a medical certificate of eligibility and a letter of recommendation from one of the governors of the hospital. If a period of four weeks elapses after candidates have been registered, they are obliged, when their turn for admission comes, to send in a letter from a physician stating that their cases are as eligible as when the medical certificate was first forwarded.

Those who apply for admission must be in a *necessitous* condition and not be able to defray the entire cost of maintenance and treatment. Cases eligible for admission are those in an *incipient* stage of disease, or which have become arrested if in the later stages, and which therefore afford a reasonable expectation of marked alleviation or recovery.

If after the lapse of ten weeks the physician should deem a longer stay desirable, the patient is obliged to procure a new letter of recommendation. Patients are required to conform strictly to the rules framed for the internal management of the hospital. Their diet-list is a fixed one for every day of the week. Departures from it are allowed only in special cases, and are then ordered by the physician. Every patient drinks milk at 8 A. M., after which breakfast follows, and during the day are furnished lunch, dinner, tea, and later supper in the English fashion.

Patients who are able are obliged to go out of doors every pleasant day and walk a prescribed distance. The climate allows much lounging in the open air. The chaplain is required to attend the hospital daily, in the interest of such patients as may wish to speak with him.

Now, as to what has been and is being accomplished. For example, the hospital statistics show that during the years 1870-

73, 474 patients were treated. Of these 122 were discharged as "improved;" 161 "much improved;" 83 "very much improved;" 28 "restored;" 34 in "unchanged condition;" 22 "worse." There were only 24 deaths. The gain in weight of the whole number amounted to 2112 pounds. Those who lost in weight did so to the amount only of 286 pounds. This typifies the benefit derived at Ventnor. During the year 1874-75, 619 cases were admitted. Of these 130 were "improved;" 122 were "much improved;" 167 "very much improved;" 41 "restored;" 94 "remained in the same condition;" 37 "became worse;" "only 31 died." The gain in weight amounted to 2117 pounds. These statistics indicate remarkable improvement.

As Hassall remarks in his book, "It is impossible to bestow too much care and thought upon the choice of a suitable climate for the phthisical. The nature of the climate must of course depend to some extent upon the character of the case." The statistics I have quoted are given by Hassall to show the benefit which lung cases may derive from a residence in an even temperature, in a suitable climate, when combined with appropriate treatment, regimen, and hygiene.

The number of patients admitted to the hospital at one time is limited; but this does not prevent the use of the town as a winter sanatorium. Many Americans spend the winter abroad because of weak lungs or hearts. In perhaps the majority of cases they would prefer to live in an English-speaking town instead of on the shores of the Mediterranean, to reach which costs more money, more time, and greater fatigue, and, moreover, includes the rough passage across the English Channel. One object of this paper is to show that comparatively close at hand we have a winter resort with the advantages of which American physicians are not sufficiently familiar.

The position and setting of Ventnor strikingly remind one of San Remo, a famous resort of consumptives. Ventnor looks towards the south, and lies at the base of a range of high hills, which enclose it on the northern and western sides in the form of an amphitheatre and protect it from the winter winds. A beautifully picturesque town, consisting of "a medley of every possible known and unknown order of architecture, strewn broadcast. All

these houses seem to have dropped into their places, just as the spectators at a Roman amphitheatre may have dropped into theirs; and they crowd and jostle and peep out one above another, seeming to have a unison of design only in one particular,—to have a good look at the sea. Break-neck precipices and zigzag roads, at every alarming angle of declivity, intercept the labyrinth of houses, which stand (to all appearance) on each other's heads or look over each other's shoulders, and settle down on rocky ledges out of which are scooped baby gardens of more than a baby's loveliness, where fuchsias and geraniums grow into trees, and myrtles and heliotropes brave the ethereal mildness which characterizes the fiercest winter, and where the hawthorn has been known to bloom at Christmas." (Cuthbert Bede.)

The quaint town, beginning thus quite in the heart of the hills, wanders, with a sweet wilfulness of the most artistic nature, down between the open jaws of huge, bold cliffs, into the very sea. Excepting this interval, these cliffs overhang the sea, east and west, as far as the eye can reach. The path along the verge of the cliffs is the favorite haunt of pedestrians, and along the beach is a superb marine promenade.

The town is a little paradise of quaintness, picturesqueness, and beauty, from its queer thatch-roofed Norman cottages to the elegant villa, and from its velvety lawns to huge hill and ragged cliff. The roads are macadamized and excellent; drives are charming, and excursions, every one of which becomes a delightful memory, abound in all directions. Saddle-horses, donkeys, and carriages of all sorts, from the comical "midge" to the gay four-in-hand mail-coach, may be engaged at reasonable rates. Shops are very good; there are several circulating libraries; pianos may be hired; row-boats are abundant; there are churches of nearly every denomination. In short, the town offers agreeable variety to the visitor. To live in the hotels, several of which are unexceptionable, is expensive. The wiser way is to engage rooms in one of the many houses which make a business of entertaining strangers. The women cook and keep house, and the husbands serve at table. Food is of the best, and the price of board is moderate. A party should hire a villa. Concerning the climate of Ventnor, it can be said that this side of San Remo there

is nothing like it abroad in mildness and equability.

Sir James Clark was the first to call attention to the peculiar advantages of the Undercliff (another name for the place). He says, "It is a matter of surprise to me that the advantages it possesses, in point of shelter and position, should have been so long overlooked in a country whose inhabitants, during the last century, have been traversing half the globe in search of climate."

Dr. Martin, a resident, who has done much for Ventnor, writes, "The undulating character of the ground and the free exposure to the sea prevent that stagnant condition of the atmosphere so frequently met in sheltered localities, and hence the lightness and invigorating quality of the air. Hence also probably springs the immunity the Undercliff enjoys in the non-spreading and absence of epidemics for which it is remarkable, and which have won for it the proud distinction in the reports of the Registrar-General of being absolutely the healthiest place in England."

Another authority, writing on Ventnor and Bonchurch (a suburb), says, "They form part of an island of small size, around which the sea flows freely, so that there is a breeze from the ocean to temper the summer heat, and the influence of the Gulf Stream to moderate the cold in winter. The result is that there is a more equable temperature than in any other part of England." The mean maximum temperature for twenty-five years was 77.2° . The mean minimum temperature for the same period was 25.1° . "Possibly, take it all in all," says the same authority, "as a winter sanatorium Ventnor has not its like even on the Continent; for the effects of the Gulf Stream on the water which flows around the Isle of Wight are not in action on the villas which stud the shores of the Mediterranean. Every fortunate circumstance seems to constitute the Undercliff one of the most favored sanatoriums on earth, and to render it the resort of consumptives *par excellence*."

The climate of Nice and Cannes has for years been recommended as beneficial to consumptives,—an error which one may quickly discover by living in either place. Mr. Aspinall writes of this climate as delightful, the air being clear and exhilarating,—“like a summer's day iced,”—but

very treacherous; “for, after being overheated by the hot sunshine, you constantly meet bitterly cold winds sweeping through the gorges of the snow-mountains at the north.” A room with a southerly exposure is a *sine qua non*. One street is oppressively warm; in another one needs an overcoat. The winds are excessively changeable, there being sometimes four or five variations in one day. C. T. Williams, Prosser James, and other English writers endorse this opinion; and Dr. Walshe sums up his observations of the effect of this climate in general phthisis by saying, “In no stage, in no degree, in no form of tuberculization of the lungs, and no matter what the temperament of the individual, is Nice (and therefore Cannes) a safe winter resort. The climate is most dangerous in cases with hæmoptoic and laryngitic tendencies. Nice is delightful for those in health.”

San Remo, according to all authorities, being mild, dry, equable, and fully protected from northern winds, and hence sudden changes of temperature, seems to possess a climate very suitable for ordinary phthisis,—that is, for cases unaccompanied by a tendency to hemorrhage or inflammatory deposit. But even in San Remo the patient must dwell in a part of the town to which he should be directed by a resident physician. Being hilly and mountainous, it is unsuited to heart-disease, also to those liable to cerebral congestion or apoplexy. In San Remo the rainfall in forty-eight days of one year was 28.78 inches; in Ventnor, during one hundred and fifty-six days of a single year, only 34.54 inches. In the latter the mean annual temperature in two years was 51.95° ; in San Remo, 60.13° ; and during the winter season, 51.55° .

These facts plead largely in favor of Ventnor, especially so since it is nearer home, is less expensive, and is English. Of course there are winters during which Ventnor experiences unusual cold, and last winter, in common with England at large, it had heavy snow-storms. But these are rare exceptions, which apply equally to San Remo and the Riviera.

This information, it is hoped, will lead American physicians to make frequent use of Ventnor for such of their chest cases as wish and require a winter abroad. It need scarcely be said that advanced cases of phthisis should rarely, if ever, be sent

away from home. This is a short-sighted policy. Change of climate for consumptives is beneficial mainly because patients in the proper air can live out of doors. Serious cases, as a rule, should be allowed to die at home.

To add further statistics in connection with Ventnor, it may be said that during ten years the mean temperature of the coldest month (February) was 41.12° F.; average winter temperature, 41.80°; average number of rainy days, 73.3; average rainfall, 25.94 inches (October giving the most). The southwest is the prevalent wind, blowing 96.97 days.

The editor will gladly give further information to those who desire it. Those physicians who may wish to correspond directly with Ventnor should address Dr. J. G. Sinclair Coghill. This gentleman is the leading physician of the town, and visiting physician to the Consumptive Hospital.

Details of this institution have been given in the hope that similar hospitals may be erected in proper localities in our own country.

The remarkable success which attends the system pursued at Ventnor should receive serious consideration. Patients who upon leaving this hospital are recommended to remain, if possible, in the Undercliff, but who have not sufficient means to do so, are aided by a fund established and maintained by residents of Ventnor. Incurable cases which cannot be retained by the hospital are aided by the same fund. All these patients are visited in their lodgings by the ladies of the committee, receive gratuitous advice from the physician to the hospital, and attendance from a clergyman of their own denomination.

BACILLUS TYPHOSUS KLEBSII.

THE advocates of the germ-theory again claim an important result, and this time none less than the detection of the cause of typhoid fever, a result due to the laborious work of the great German investigator, Edwin Klebs, who, after years of patient study, has at last finished his experiments and observations regarding the origin of enteric fever,* and of which

we will give our readers a *résumé* in the following.

According to Ferd. Cohn, Eberth, Klebs, and others, all low organisms which are found as filiform formations and contain in their interior germ-spores belong to the group of bacilli. Eberth, when investigating, about a year ago, the microscopical appearance of some Peyer's plaques of a case of typhoid fever, saw already small, short, thick, rounded rods, some of which contained one to three spores;† but Klebs has been the first who detected in the larynx and in the intestines‡ larger rods, jointed threads, forming long crowded tracts and even a narrow net-work, penetrating whole tissues, and who explained their true character. The difficulty which so far always existed regarding the establishment of the fact that these low organisms, the bacilli typhosi, are the cause of typhoid fever, had been that some investigators had found pathological specimens of cases of abdominal typhus containing no bacilli, while others, again, had observed the seemingly same bacilli in different diseases. But Klebs has fully explained these apparent contradictions. According to the day of the fever on which the individual affected with it died, these bacilli are often absent at certain places, but found in others; further, depending upon their stage of development, they assume different forms and shapes; and, lastly, many precautions have to be taken, in preparing the pathological specimens, to enable the investigator to detect the bacilli. If the necessary precautions are observed and the different stages in the development of the bacilli are known, the latter are affirmed to be invariably found. Further, Klebs has proved another important fact, hitherto unknown,—viz.: many of these low organisms will present at a certain stage of their development, with our present power of magnifying and means of investigation, a very similar appearance; but if their development is watched there will appear a great variance between the different kinds. If instead of a culturing fluid a solid gelatin culture-mass is taken and sand strewn finely over it, and if now the different low organisms are implanted thereon, then one kind will develop always

* Archiv für Experimentelle Pathologie und Pharmacologie. Von Edwin Klebs, B. Naunyn und O. Schmiedeberg. Band xlii. Heft v. and vi., March 22 and April 26, 1881.

† Virchow's Archiv, vol. lxxxi. p. 58.

‡ Whenever we speak of Klebs's investigations, we refer to the article quoted above.

in heaps, one will draw itself out in thread-like masses, one will assume invariably a star-shape, another form a beautiful network, etc. Further, these low organisms are recognized from each other by their different shape in every stage of development and by the way they enter the tissues. The investigations of Klebs have lasted almost sixteen years; but after he had acquired the knowledge to differentiate each species of *Schistomycosæ*, and perfected the mode of detecting them, and when he knew where to look for them, he had no trouble in proving the presence of the bacillus typhosus in every case of typhoid fever.

The bacillus typhosus enters the system by the respiratory passages and by the alimentary canal. This is the cause that in some cases of typhoid fever almost no abdominal symptoms are present, but a low form of pneumonia developing from the very beginning, so that the lung seems alone to bear the brunt of the disease. In such a case the bacilli have entered by the air-passages, and from there they reach, by the arterial blood-channels, the follicles of the intestines, as well as the other lymphatic apparatus and the spleen. On account of the greater continuous natural irritation and the greater proliferation of cells there, they accumulate more frequently in Peyer's plaques. In the second Prague epidemic, forty-three per cent. of the dead had almost alone the lung-complication, while the intestinal affection was very little developed. Klebs gives the result of the careful dissection of several such cases. Mostly, however, the bacilli enter by the alimentary tract, being swallowed with the food or water, or having collected on the mucous membrane of nose, mouth, and pharynx, with the saliva, and then accumulate first in the large masses of epithelial cells found on the mucosa of the intestines. As long as the typhoid process develops itself progressively in the plaques, bacilli are found there. There exists the closest connection between the development of the bacilli in the organs and the morbid alteration of the tissue of the latter. Their presence is so constant wherever there is a lesion, commonly called a complication, that it is sufficient proof of their genetic importance. Development of bacilli and of morbid tissue-alteration run parallel to each other.

According to the observations, the life of the bacillus typhosus in the intestines

reaches its acme within fourteen days; then rapid retroformation takes place, the cells, which have accumulated in enormously great masses, undergoing fatty degeneration and acting as destroyers of the bacilli. All later disturbances are either due to further progress of morbid tissue-change once begun, or depend upon new development of bacilli in the intestines or somewhere else. As mentioned above, the bacilli inhaled go frequently directly to the lungs, but in most cases they are retained on the mucous membrane of nose, mouth, and pharynx, and swallowed with the saliva. The first morbid alterations they produce appear, therefore, either in the intestines or, as was observed in some epidemics, in the lungs. In either of these organs the development of spores immediately begins, and these are carried by the blood-vessels or lymphatics to other organs, where a rapid new formation of bacilli commences. So they have been found in the pia mater, giving origin to nervous phenomena. And the severer the complication was during life, the greater was the accumulation of bacilli in the organ affected. In persons who had been so overcome by the intensity of the poison (as formerly expressed) as to die at the very outset with cerebral symptoms, as convulsions, stupor, and coma, oedema of the pia mater existed, and in the hollow spaces of this membrane immense quantities of the small rods and threads characteristic of bacilli were found. In subjects having died from other diseases with the same symptoms there was frequently seen a similar oedema, but bacilli were never present. While the morbid condition of oedema and inflammation of the lungs, for instance, was the same in cases of sepsis and scarlatina and typhoid, in the first two maladies micrococci were found, but in the latter invariably the same rods and filiform bodies with spores of the bacillus typhosus. Epinger has seen, in cases of ulceration of the larynx in typhoid fever, the infiltration of the mucous membrane and of the cartilage with bacilli masses. As a great number always collect on the mucous membrane of the pharynx, we have an indication for the frequent use of disinfecting gargles. The capillary hemorrhages which are so frequently found in enteric fever in the heart, lungs, kidneys, in the skin, and in the alimentary canal and urinary passages, have their origin in the fact that the

bacilli collect first in the capillary vessels, then an accumulation of blood-corpuscles takes place, the vessels dilate, and we have a stasis, followed by capillary hemorrhage and perivascular infiltration of masses of newly-developed bacilli.

Another cause which made many hesitate in believing the existence of the bacillus typhosus was the difficulty which investigators experience when trying to produce a disease of human beings on animals; but they should have thought of the different action of poisons on different races even of the same species, as Chauveau long ago has proved with his experiments on sheep. Besides, the bacillus typhosus produces in men as well as in animals, if the infection is correctly performed, the same morbid changes,—viz., the following. There is at first a general catarrh of the mucous membrane of the alimentary tract. The epithelium becomes opaque, and desquamation of large masses of epithelial cells takes place. In these cells are found the little rods, with frequently one end spore and one central spore, which latter seems to be the division-point where the spore, making its exit, forms a new bacillus. Later, diffuse swelling of the different layers of the mucous membrane sets in, especially near the ileo-cæcal valve (undoubtedly in consequence of its deeper position and the arrest of locomotion of the contents there). The microscope shows now an infiltration of the whole mucous membrane at these places with the small rods. At the same time their further development into small threads is observed, many of which are at the end beautifully twisted around themselves, and some of them containing many spores. Their greater thinness, length, and the twisted form distinguish them clearly from septic organisms. After this they penetrate through the follicles of Lieberkühn, where they do not collect in large masses, but do so in the subglandular layer of the mucosa. They infiltrate Peyer's plaques, the solitary and mesenteric glands, and especially the tissues surrounding all these, and are from there carried farther by the veins and lymphatics. With the longer duration of the disease, and in case of relapse, the threads become longer and the number of spores increases, the latter showing themselves as dark spots. Especially perivascular infiltrations, with destruction of the walls of the vessels, are now observed. If the microscopical prepa-

rations are stained in a certain way,—the description of which would here occupy too much space,—and at this stage of full development and acme of growth of the bacilli, the latter assume a blue color, and whole tracts of them appear as a beautiful blue network; but the same procedure never has this effect on any other known organism or on any tissue. The destruction of the latter by the bacilli is as follows. First, the protoplasm of the cells is invaded by them and disappears, then the nuclei are attacked, then whole cells; after this infiltration and destruction of the tissue, leaving of this only some areolar-tissue fibres and parts of membranes of vessels and a few elastic fibres, so that we have a process of necrosis of tissue which is in direct opposition to that which is induced by the cutting off of the blood-supply by hemorrhagic infarctions, as we find it, for instance, in the kidney in true diphtheria (Weigert). But there is further destruction of tissue observed at a certain distance away from the parts infiltrated by the bacillus typhosus. This is due to the fact that from all bacilli a dissolving fluid oozes out, which penetrates the neighboring tissue, so that we have not only destruction of tissue by the mechanical action of the bacilli-masses, but also in the neighborhood a chemical one by the fluid mentioned.

Klebs made a large number of experiments on animals, but one on a rabbit was especially successful, which was performed under precautions which seem almost too laborious for any man to undertake, where by infection with the bacillus typhosus exactly the same morbid condition was produced in the rabbit as is invariably found in cases of typhoid fever in men, and where the same clinical picture exhibited itself.

To recapitulate: Klebs claims that he has proved that there exists in typhoid fever a separate and special bacillus,—the bacillus typhosus; that it undergoes certain transformations, consisting at first of little rods and small, fine threads, containing a spore in the centre and often at the end (which spores divide off and form new bacilli); it later assumes a longer, thread-like form, twisted at the end and frequently taking a beautiful, spiral shape; that the bacilli are observed first in the masses of epithelial cells, which accumulate in the alimentary tract or in the air-passages; that they later penetrate the tissues

and are carried along by the blood-vessels and the lymphatics and form a large network among the tissues they invade; that under a certain procedure, which never causes this same staining on any other living organism or tissue, they appear of a blue color; that they are found only in enteric fever, in which disease every part of the human body is the seat of masses of these bacilli, their quantity corresponding exactly with the severity of the symptoms; and that they produce, when carried into the system of animals, exactly the same disease with the same morbid alterations as typhoid fever in men.

But Klebs believes that he has done more than this. He has proved by a number of dissections that the cold-water treatment influences the disease very little, but produces rather damaging results in a majority of cases. Further, he has given us a remedy which decidedly influences and shortens the disease, and that is the benzoate of sodium or magnesium, used as a gargle, by inhalation, and internally in doses of three hundred and twenty grains per diem. He cites a case in which he especially had opportunity to observe the effect of the medicine. A physically very strong man, who worked in his laboratory the whole day, and was most of his time engaged with the culture of the bacillus typhosus, became affected with typhoid fever in what promised, to all appearances, to be a very aggravated and serious form. After nine days of treatment with twenty grains of benzoate of magnesium daily, all the symptoms and all fever left the patient, and a rather remarkable weakness was the only symptom he complained of after that for some time.

Klebs recommends the benzoate instead of other similarly acting remedies, as salicylic acid, carbolic acid, etc., etc., because the benzoates alone can be given in doses large enough to keep up a continuous disinfection without producing any disagreeable symptoms, which would necessitate a smaller dose or the total omission of the remedy, as is so frequently the case with either salicylic or carbolic acid.

HUGO ENGEL.

NITRITE OF AMYL is claimed (*British Medical Journal*, October 1, 1881) to act excellently in chordee and painful erections. Three to five drops by inhalation is the dose.

REVIEWS AND BOOK NOTICES.

GENERAL MEDICAL CHEMISTRY FOR THE USE OF PRACTITIONERS OF MEDICINE. By R. A. WITTHAUS, A.M., M.D. Wm. Wood & Co., New York, 1881.

We have here what is in many respects the best work on medical chemistry in the English language. It is not merely a general chemistry, with here and there references which are supposed to adapt it to the use of medical men, but it is written directly for them by a teacher of medical chemistry. As the author says, "those portions treating of technical processes have been condensed to a minimum, while the bearings of chemistry upon physiology, hygiene, therapeutics, and toxicology have been treated of as fully as the limits of the work have permitted."

We must also commend the author's general arrangement of the subject. He drops the old arrangement of the elements as metals and metalloids, as unscientific, and classifies all the elements, including carbon, in groups according to their equivalence, placing, however, the electro-negative or acid-forming elements first, and then the electro-positive or basic elements. In his effort to carry out this system of classification to its logical conclusions, he is a little too positive in several instances. Thus, he puts zinc in Class IV. (elements whose oxides unite with water to form bases,—never to form acids), while aluminum is put in Class III. (elements whose oxides unite with water, some to form bases, others to form acids). Now, zinc placed in caustic alkali solution evolves hydrogen, owing to the formation of *zincate* of alkali, just as we find metallic aluminum dissolves, forming *aluminate* of alkali. This reaction with zinc forms the basis of Fleitman's modification of Marsh's test for arsenic, which, by the way, our author overlooks in his account of the toxicology of arsenic.

We are very much pleased at his presentation of the chemistry of carbon compounds, and agree with him that there is no need of erecting or maintaining an arbitrary wall of distinction between them and the compounds of the other elements. We like, moreover, the building up of the various organic compounds from series of hydrocarbons. He is here, however, too logical again, as he classifies the *terpines* along with *valylene* under the heading *hydrocarbons of the series* (C_nH_m), whereas the *terpines* yield decomposition products of the aromatic group and are undoubtedly more complex in molecular structure. The book is not entirely free from typographical errors, some of which are quite misleading, as, for instance, the word *mono-actin* for *mono-acetin*, on p. 277, and the use of the term *carbinol* as synonymous with methyl alcohol, on p. 168. It should be *hydrogen-carbinol*, just as, on the next page,

ethyl alcohol is correctly termed *methyl-carbinol*.

We decidedly object to the terms *air unity* and *hydrogen unity* and the corresponding abbreviations A. and H., on p. 36, as representative of the terms *specific gravity* and *density* applied to gases. It is much simpler to learn the distinction between these two latter terms than to speak of specific gravity (*air unity*) and specific gravity (*hydrogen unity*),—terms sure to give rise to confusion and mistake.

In general, however, as we said before, the book is the best work on medical chemistry that we know of in the English language.

S.

ARTIFICIAL ANÆSTHESIA AND ANÆSTHETICS.

By HENRY M. LYMAN, M.D. New York, Wm. Wood & Co., 1881.

We have looked over Prof. Lyman's book very carefully, and conclude that the worst thing about it is the very front of it,—namely, the preface. He therein informs us that there is nothing new or original in the book, and that the "work was performed without access to any library of importance." If these assertions were strictly true, what business had the Professor to write a book at all? We opine, none. But, in our sober judgment, they are not true: there is somewhat of novel and very much of well-garnered material in the treatise, which we would stamp with "good" across its title-page.

Of course we cannot assent to all contained in its three hundred and thirty pages of rather close print. We would file exceptions to the assertion (p. 15) "that all the substances which are thus capable of arresting the process of oxidation, without taking the place of oxygen or even excluding its presence in any marked degree, are substances capable of producing anæsthetic effects," etc. In one sense this may be true; but in the sense in which it would be generally understood and is applied to the argument it is not true. Nitrite of amyl is a volatile contradiction to it. We commend the doctor's rejection of the phantasies of Hammond and others in regard to the causation of sleep, and also his assertion that sleep is "the consequence of a certain stage of exhaustion of energy in nervous matter," for the idea which it is designed to convey, but not for its mode of expression. "Stage of" should be omitted altogether, or the word "degree" substituted. For a specimen of what seems to us bad reasoning, let the reader consult page 26; and for one of very happy thought, the last paragraph of page 47.

We have not had given us the task to follow further our author in detail, but we would call attention to the ghastly array of four hundred and ten chloroform deaths mustered for analysis. As there must have been nearly as many unreported as reported deaths, it is

plain that the space of one cemetery has been well filled by this treacherous agent.

Twenty-seven cases of sudden death are attributed to ether. We wish most heartily that the doctor had carefully analyzed these cases, for, to our thinking, in only a proportion of them was ether really the cause of death.

Space failing us, we dismiss the work before us with a hearty commendation and a hearty recommendation of it to buyers as the most recent and most valuable of its class.

THERAPEUTIC AND OPERATIVE MEASURES FOR CHRONIC CATARRHAL INFLAMMATION OF THE NOSE, THROAT, AND EARS. By THOS. F. RUMBOLD, M.D. Part II. St. Louis, Geo. O. Rumbold & Co., 1881. Pp. 467.

This volume completes the work announced by Dr. Rumbold in his "Hygiene of Catarrh." It closely resembles in style and typography the former publication, and, in the judgment of the reader, must suffer from the resemblance. It is unfortunate for science that while the author is recognized to be a conscientious student who has applied himself zealously to an obscure and, until recently, a neglected branch, he should not be better prepared for medical observation. The data on which his propositions rest are often unreliable, and the deductions drawn therefrom untenable. His most cherished convictions would be held by a well-trained worker as suggestive impressions merely, or, at best, as tentative hypotheses. But, after all regrets have been expressed, much remains to make this a welcome book. Dr. Rumbold is a safe practitioner, and one ingenious in the adaptation of instruments to the treatment of nasal and pharyngeal disease. His book is worthy of study on the part of all interested in these subjects.

A MANUAL OF PRACTICAL NORMAL HISTOLOGY. By T. MITCHELL PRUDDEN, M.D., Director of the Physiological and Pathological Laboratory of the Alumni Association of the College of Physicians and Surgeons, New York; Lecturer on Normal Histology in Yale College; Pathologist to the Manhattan Eye and Ear Hospital.

The above little book very fully carries out the design of its author,—viz., "the study of the science in classes, with an instructor in a laboratory." We would most urgently insist upon the presence of an instructor, not that the work is of itself superfluous, but it is an impossibility to give, in a book the size of the writer's, all the information necessary for the student. What the book does do, and does well, is that it tells how to go to work. The methodical manner in which the student is directed to proceed in his investigations will, if faithfully adhered to, give him a firm foundation for further histological studies. As a

practical guide for the beginner, and as an auxiliary for the teacher, the book will be found useful.

TREATMENT OF VARICOCELE. By M. H. HENRY, A.M., M.D.

Although the removal of redundant scrotum for the relief of varicocele is no new operation, yet we welcome the views of one who has had the confidence to persevere in it for ten years and then report his experience as based upon fifteen operations. Of these only four are of real value, since they are the only ones in which the result of the operation is positively known. One of these is especially noteworthy. It is that of a man upon whom Ricord had previously operated with the ligature; and to have relieved such a case by the reduction method is highly satisfactory.

We remember seeing Prof. Gross operate with the ligature upon a physician about 35 years of age, who had been operated upon twice before by the same method, and that, too, by different but skilful surgeons. What percentage of failures follows the ligature is not known, but it is not too much to say that the profession is quite ready for a substitute for it.

For the operation Dr. Henry has devised scissors and a clamp with two sets of parallel blades. The clamp is applied while the patient is erect, from before backward,—i.e., in the direction of the raphé; but retrenchment is by the scissors, after anæsthesia. Now will appear the advantages of the two sets of blades; for while one set is removed for the application of stitches, the other set holds the parts in apposition, prevents protrusion of pent-up parts, prevents hemorrhage, and renders an otherwise tedious, disgusting, and unsatisfactory operation almost bloodless and without embarrassment.

Another point of value. Nearly two-thirds of his cases united by first intention and were about in a week. The less favored were cured by the granulating process, and were well in less than three weeks.

The paper, which was read before the Academy of Medicine of New York, and first published in the *Medical Record*, May 28, 1881, is now neatly bound for fifty cents. The price of the clamps is ten dollars, that of the scissors five dollars, and they may be had of Tiemann, of New York.

A TEXT-BOOK OF PHYSIOLOGY. By M. FOSTER. Second American from the Third English Edition. By EDWARD REICHERT, M.D. Philadelphia, H. C. Lea's Sons & Co., 1881.

The editions of Prof. Foster's excellent text-book follow one another with encouraging rapidity; but, alas! so far as America is concerned, another man reaps where he has sowed. When will the law force publishers to be honest?

PRACTICAL ANATOMY. By CHRISTOPHER HEATH. Fifth Edition. Philadelphia, Presley Blakiston, 1881.

This is a new edition of Heath's well-known dissector's manual. A few new wood-cuts have been added, and the number of colored plates increased to twenty-four. We notice that in the brain section the modern names of the convolutions are all given.

ESSENTIALS OF THE PRINCIPLES AND PRACTICE OF MEDICINE. By HENRY HARTSHORNE, A.M., M.D. Fifth Edition. Philadelphia, H. C. Lea's Sons & Co., 1881.

A new edition of Prof. Hartshorne's *multum in parvo*, whose peculiar position in literature was long ago taken.

A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD. By J. LEWIS SMITH, M.D. Fifth Edition. Philadelphia, H. C. Lea's Sons & Co., 1881.

It gives us pleasure to announce the appearance of a new edition of Prof. Smith's excellent treatise.

GLEANINGS FROM EXCHANGES.

HYSTERIA AND THE LARYNX.—Dr. L. Thaon, of Nice (*Edinburgh Medical Journal*, October, 1881, p. 316), speaking of that form of hysteria which is localized in the larynx alone, says that it is found under four principal forms,—aphonia, spasm, anæsthesia, and hyperæsthesia.

Aphonia is not the commonest but is the most marked form. It is caused by paralysis of the muscles of the larynx. The muscles most commonly seized are the vocal muscles. Nevertheless, paralysis of the posterior crico-arytenoids is not absolutely rare, and he has known a case of this kind in which a hysterical female has been twice tracheotomized. A primary symptom of hysterical paralysis is that it is frequently bilateral, or else the paralysis is one-sided, but complicated with paresis or contraction of the opposite muscle. Thus, hysterical aphonia is often complete. It is, besides, a common enough occurrence, this diffusion of hysteria in organs which are impaired, and which are not symmetrical, as the ovaries.

A second symptom of hysterical aphonia is that it frequently gives a laryngoscopic image differing the one day from the other.

A third characteristic is to leave the cough intact, which even gains in intensity and breaks forth into roaring. We have even seen some cases of hysterical aphonia where the patient could sing, and some who could speak in their dreams.

Another peculiarity of this aphonia is the absence of muscular atrophy, notwithstanding a long duration of paralysis. It is still our duty to look for means of diagnosis in

the manner in which this aphonia conducts itself under treatment; in fact, whether it disappears at the slightest therapeutic summons, or after it has resisted all the resources of the art, at the end of a shorter or longer period, the aphonia disappears of itself on the occasion of a moral emotion more or less active. A fact which Thaon has often proved is the existence along with the hysterical aphonia of a patch surface of cutaneous anæsthesia on the border of the supra- and infra-hyoid regions. He has met with this symptom about twice in every five cases. Hysterical aphonia is cured by every method, or else it is a rebel to every form of treatment. From the simple introduction of the laryngeal mirror, which instantly causes the aphonia to disappear, to the subcutaneous injections of strychnia, all have succeeded or failed.

Spasm of the Larynx.—The *hysterical laryngeal spasm* has its characteristics which distinguish it from the spasm of infancy, from the spasm from an irritation of the vagus nerve or of the recurrent, and from the spasm from the introduction of a foreign body into the larynx. This spasm is expiratory or inspiratory. The expiratory spasm is nothing else than the whimsical cough of the hysterical, a symptom common to nearly every hysterical, but a symptom the most painful. In a boy fourteen years of age Thaon has counted as many as twenty-five coughs per minute during weeks. This child was cured by a heavy rain which overtook him during a walk, and to which he was exposed for two hours. At other times the hysterical cough is cured by the intercurrent affection which has been its primary cause. We know the fortunate consequences of the cure of uterine maladies from the hysterical cough. This hysterical cough was the cause of many errors being made before the laryngoscope had unveiled the exact state of the larynx. When it is met with in young girls associated with supplementary hæmoptysis, it gives rise to a prognosis of which the gravity is only apparent.

The laryngeal inspiratory spasm is more rarely met with in hysterics. The varieties are numerous, from a simple modification of the voice to a spasm which puts the subject of it in danger of an imminent death: we even find in medical literature fatal cases, followed by an autopsy. To a very slight degree the voice is more stridulous, or else it is discordant, or as if it were broken; the respiration is a little noisy. Under these conditions the laryngoscopic examination allows us to see the glottis partially closed during inspiration. In a more aggravated degree we can hear varied sounds resembling the crowing of a cock, the barking of a dog; besides, the respiration becomes whistling. At length the spasm becomes so pronounced that the patients present a frightful spectacle and appear threatened with immediate death. It is singular that even in these cases the symptoms of asphyxia

are not so pronounced as in spasms of other origin. Many tracheotomies have been performed in these conditions. Some of them were perhaps justifiable, but the greater number might have been avoided with more *sang-froid* on the part of the doctor and a better knowledge of the varied resources offered by therapeutics. When danger is imminent, chloroform is the most expeditious means: it unquestionably stops the spasm after a short period of inhalation. A proceeding which has succeeded several times consists in forcibly drawing out the tongue, and even in pushing the finger into the larynx. This procedure probably acts by reflex action rather than in raising the lowered and contracted epiglottis, as Chairou supposed. With a young girl seized with a spasm on arriving at puberty, Thaon has succeeded in stopping the spasm by the aid of ovarian compression.

Laryngeal Hyperæsthesia.—Hysterical laryngeal hyperæsthesia is very common; it is perhaps the most frequent manifestation of hysteria in the larynx. Sometimes it is diffuse, and manifests itself by various sensations,—sensations of burning, tearing, pulling, going from the throat to the sternum, sensations of a foreign body. . . . Laryngeal hyperæsthesia, in place of being diffuse, may be localized in the form of painful points, true neuralgias, more commonly situated to the left side of the neck, and with painful foci which we exasperate by pressure, and which are, in order of frequency, the lateral borders of the thyroid cartilage, the crico-thyroid interspace, the hyo-thyroid interspace, the posterior portion of the tongue behind the lingual V. Another variety of hyperæsthesia is characterized by being afraid to speak,—by *phonophobia*. The patients dread to speak aloud; they whisper. If they speak in a loud voice they are immediately seized with very acute pains. The local therapeutics consist in calming the exaggerated sensibility of the larynx with the aid of topical remedies applied to the mucous membrane, such as the glycerin of morphia, or, better, the application of morphia in the form of powder. For the neuralgic form, hypodermic injections ought to have the preference. We will carefully avoid the abuse of the injections by those patients afflicted with a laryngeal neurosis. Some of them have exhibited remarkable examples of these abuses. The revulsive method also acts with incontestable efficacy: we often succeed with little blisters applied to the sides of the neck. We sometimes stop the spasms, which are accompanied by a slight catarrhal redness of the mucous membrane, by the help of an intra-laryngeal cauterization with a solution of the nitrate of silver.

Laryngeal Anæsthesia.—This anæsthesia is observed less frequently. It is the epiglottis which is most frequently attacked by anæsthesia, and frequently to the exclusion of every other part. The simple introduction of

the mirror is sufficient to cause many of these anæsthesias to disappear. In the more rebellious cases, touching with the sound, the application of an intermittent current, one or several paintings with the nitrate of silver, suffice to set the patients free.

In conclusion, the diagnosis of laryngeal hysteria may almost always be made at the very first, without taking into consideration the train of other symptoms of hysteria, which are very often wanting. This manifestation of hysteria can very frequently be advantageously modified by a well-ordered local treatment, which in this form has a greater importance than the general treatment applied to nervous people.

THE JUICE OF OXALIS ACETOSELLA AS A CAUSTIC.—Dr. Edgar Eltinge, in a paper on this subject (*Annals of Anatomy and Surgery*) giving his personal experience, says,—

"The *Oxalis acetosella*, familiarly known as wood-sorrel, is indigenous both to the United States and Europe, and is abundantly found in shady waste places, groves, and hedges, neglected or uncultivated grounds, unfrequented highways, and mountainous woody regions. It possesses marked caustic or escharotic properties heretofore either unnoticed, untried, or unadmitted by the general profession, although it has formed the essential ingredient of the pastes used by some empirics.

"The expressed inspissated juice of this plant, properly formed into a suitable paste, I have successfully used as a local application in the removal of an epithelioma of the lip occurring in my own person. This had gradually and slowly enlarged, with alternate abrasions and partial healings, until it had become an inflamed, burning, painful, and offensively ulcerating tumor, attended with tumefaction of the sublingual, right parotid, and right tonsillary glands, with copious salivary flow and an inordinate sebaceous secretion which was almost unendurably offensive.

"The best surgical advice recommended excision by the knife, but with an unfavorable prognosis.

"My first trial was had with the zinc chloride paste of Canquoin, with which I had successfully operated several years before upon one whose ability to endure pain was commendable; but when used in my own case it aborted on account of the excessive hæmorrhage which its use provoked, a small portion only of the tumor being removed.

"After a delay of two months, no especial good resulting, I was prompted to make a trial of *Oxalis acetosella*. Three successive applications were made, at intervals of twelve hours each, which were sufficient to entirely destroy the growth; the resulting eschar separated on the eighth day, leaving a healthy granulating surface which rapidly healed. Not a drop of blood issued throughout, the contrast in this respect with the effect of the

zinc paste being marked. The glandular tumefaction rapidly subsided, and now, at the end of two years, I still remain free from any signs of recurrence.

"I found the pain produced by the application of this caustic to be intense, demanding all my fortitude to enable me to endure it. The duration, however, did not exceed half an hour after each application,—a period during which it would be quite practicable to maintain general anæsthesia in patients requiring it."

IPECACUANHA IN JAUNDICE.—Dr. Lauder Brunton, in a paper on jaundice read before the late International Medical Congress, spoke of the manner in which Carlsbad water is taken, in small sips, as probably exercising some influence through the mere act of swallowing. He thought it was highly probable that swallowing might remove the effect of the vagus upon the liver, and thus have a beneficial action upon the functions of the liver, and allow, to a certain extent, of the removal of the jaundice. It had been found that when small quantities of water were injected in the liver the secretion from the liver was increased, and also that the pressure under which the bile was secreted was increased. Hence, in all probability, the process of sipping the water in these small quantities, and frequently repeated, had a great deal to do with the remedy. In duodenal catarrh he had got good results from bismuth, perhaps with some magnesia in it. Bismuth had the power of lessening catarrhal inflammation in many mucous surfaces, as in the stomach and the nasal mucous membrane. But when the catarrh was high up the gall-duct they could not expect it to have much effect. What was wanted in that case was something which would be absorbed into the blood and thus act upon the ducts. Such a remedy was ipecacuanha. Professor Rossbach had observed a catarrhal condition in the trachea in the cat, in which it was found to be exceedingly constant; and if he injected ipecacuanha into the veins of the animal, it became at once very much increased, and very much less tenacious. That was exactly what was wanted here,—something which would enter the blood and act upon the secretion of mucus in the bile-ducts, and thus allow the bile to push its way into the duodenum. It had been asked what doses of ipecacuanha were used. He had himself had no experience of the use of ipecacuanha in jaundice. In fact, it was only a month or two since he learned of it, and he had had no cases directly under his treatment since. Dr. Ewart had mentioned that a quarter of a grain to a grain was used in India. It depended upon the nausea. Lately, also, Dr. Hook, of Bombay, recommended it in very large doses in the same way as for dysentery. He gave a sixth of a grain of morphia beforehand, and then thirty grains of ipecacuanha half an hour afterwards as a

bolus; and he had found cases of jaundice improve very satisfactorily in a very short time, and one case in twenty-four hours that had resisted other treatment. The other plan of treatment, as Dr. Ewart had mentioned, was that of continued small doses. Then, in regard to the action of euonymin, he had not tried it in jaundice, but in other cases of intermittent liver disorder in consequence of malaria in men who had been out in India, say three grains of euonymin, made up into a pill, every second or third night, followed by a little Carlsbad water in the morning. Usually he told his patients to take a large draught of the water in the morning after the pill, and on the other mornings the same quantity of the water taken in small sips, as they did at Carlsbad, so that a tumblerful should last them till they had finished dressing, the water to be previously heated to the warmth of warm tea, so that they could comfortably sip it. This combination of euonymin with Carlsbad water gave very good results indeed in these cases of biliary disorder depending upon chronic malarious poison.

A NEW SOLVENT FOR DIPHTHERITIC MEMBRANE.—Dr. W. Hale White writes to the *Lancet* of October 22, giving an account of a case in which, after tracheotomy, glycerin of pepsin was sprayed into the throat by means of an atomizer, the solution being first heated to the active temperature of pepsin (110°). The child recovered.

MISCELLANY.

BREAD REFORM LEAGUE OF ENGLAND.—This association claims that children fed principally on white bread are far more liable to suffer from bad teeth and debilitating diseases of various kinds, their food being deficient in nourishing properties. Wheat-meal bread, it is important to observe, must be carefully distinguished from ordinary brown bread, which is often a mere mixture of coarse bran and inferior white flour. Even if made from the whole of the wheat, ground as is usually done between stones, the meal has an irritating effect, which makes its general use objectionable. But if wheat, after being carefully cleansed from beard, chaff, dirt, etc., be prepared in a fine granular form, according to Dr. Campbell Morfit's process, the irritating effect of ordinary whole-meal is completely remedied. As the outer cuticle contains but little nourishment, the League advises that it be removed by decortication, as that process accomplishes this object without displacing the five interior coats of the bran, which are most valuable. The bread made from such meal is most palatable, very unlike the coarse whole-meal and brown breads usually sold.

The League also objects to bread made with chemical baking-powders, "the products left in the bread being almost always more or

less injurious to health."—*Plumber and Sanitary Engineer*, November 1, 1881.

In June, 1880, the Winchester Astronomical Observatory of Yale College undertook the verification of thermometers, especially of those used by physicians in medical practice. In the first annual report, lately issued, Dr. Leonard Waldo, astronomer in charge, states that the result has been a great improvement in the accuracy of the instruments submitted for test, four-fifths of all thermometers received in June, 1880, having errors of one-third of a degree, while in April and May, 1881, less than a fifth had errors of the same amount.

The following title is copied from *La Andalucia Médica* of the 30th of September, 1881. Such is fame:

AUTOPSIA DE MR. GARFIELD

Praticada por el
DOCTOR LONGBRANCH.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM NOVEMBER 13 TO NOVEMBER 26, 1881.

McKEE, J. C., MAJOR AND SURGEON.—The extension of his leave of absence on surgeon's certificate of disability, granted him in S. O. 189, August 18, 1881, from A. G. O., is further extended six months on surgeon's certificate of disability. S. O. 262, A. G. O., November 19, 1881.

McCLELLAN, ELY, MAJOR AND SURGEON.—Having reported in person at these headquarters, will proceed to Fort McHenry, Md., and report to the Commanding Officer for duty. S. O. 204, Department of the East, November 17, 1881.

CARVALLO, C., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence on surgeon's certificate of disability, granted him in S. O. 108, October 24, 1881, Department of the Platte, is extended five months on surgeon's certificate of disability. S. O. 256, A. G. O., November 12, 1881.

LAUDERDALE, J. F., CAPTAIN AND ASSISTANT-SURGEON.—On discontinuance of McPherson Barracks, Atlanta, Ga., assigned to duty at Jackson Barracks, La.; to remain at McPherson Barracks until medical property for which he is responsible is disposed of. S. O. 124, Department of the South, November 10, 1881.

BYRNE, C. B., CAPTAIN AND ASSISTANT-SURGEON.—Temporarily at McPherson Barracks; assigned to duty at Fort Barrancas, Fla. S. O. 124, c. s., Department of the South.

PAULDING, H. O., CAPTAIN AND ASSISTANT-SURGEON.—Having reported at these headquarters per S. O. 240, c. s., A. G. O., will report in person to the Commanding Officer, Fort Laramie, W.T., for duty. S. O. 118, Department of the Platte, November 19, 1881.

CUNINGHAM, T. A., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Jackson Barracks, and assigned to duty at Mt. Vernon Barracks, Ala. S. O. 124, c. s., Department of the South.

CARTER, EDWARD C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report in person to the Commanding General, Military Division of the Pacific and Department of California, for assignment to duty in Department of California. S. O. 263, A. G. O., November 21, 1881.

RAYMOND, H. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report in person to the Commanding General, Military Division of the Pacific and Department of California, for assignment to duty in Department of California. S. O. 263, c. s., A. G. O.

COUES, ELLIOTT, CAPTAIN AND ASSISTANT-SURGEON.—His resignation accepted by the President; to take effect this date. S. O. 260, A. G. O., November 17, 1881.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, DECEMBER 17, 1881.

ORIGINAL LECTURES.

CLINICAL LECTURE ON URETHRAL CARUNCLE.

Delivered at the Hospital of the University of Pennsylvania, June 8, 1881,

BY WILLIAM GOODELL, M.D.,

Professor of Clinical Gynecology.

Reported by GUY HINSDALE, M.D.

GENTLEMEN,—This patient, a woman 40 years of age, complains of great pain when passing her water. For several months her urine has scalded her; but the pain is constantly growing worse, and is now almost unbearable. It is most intense as the last few drops come away. Inasmuch as most of the lesions of the reproductive apparatus—such as vaginitis, uterine displacements, etc.—give rise to vesical disturbance, and since the symptoms are not always typical, a urethral caruncle is very likely to be overlooked by the physician. Reflex symptoms, uterine in their expression, lead him astray, while a very natural delicacy prevents him from making the needful visual inspection of the parts. Indeed, you cannot say in these cases, “I will look at the parts and see what is the matter.” Woman’s modest nature—we would not have it otherwise—instinctively resents such an examination, and, if brusquely proposed, it will almost always be denied. What, then, can you do? You can do it without consulting her. You can ask for a vaginal examination,—to which most women will submit,—and while you are exploring the uterus with the index finger you may with the thumb press upon the meatus, and notice whether the contact elicits pain; then, as you introduce or as you remove the speculum, with your eye glance at the urethra. It has always been my experience that whenever you can confidently say to your patient, “I have discovered the cause of your trouble; here it is,”—and then by pressing upon the caruncle convince her that your statement is correct,—she will not refuse any future needful exposure of her person. I make it an inflexible rule, when a woman complains of pain in passing her water, to feel for a caruncle. You must not forget in all these cases to

go through with the formality of covering the patient with a sheet; for just as you gild and sugar-coat what is bitter to the taste, so you must gild and sugar-coat what is bitter to the mind.

As I separate her thighs and expose the meatus urinarius, those of you who are near can see at the upper margin of the meatus a small crimson and wart-like body. It is a vascular excrescence of the urethra, and looks like a small Antwerp raspberry. Notice its vascularity: it bleeds on the slightest touch. Observe how sensitive it is: although profoundly etherized, the woman winces and draws up her limbs. So exquisitely alert are the little nervelets distributed over its surface that were she not under the influence of ether she would writhe with pain under even the gentlest touch. The vulva and outlying organs of a woman are, as you have often observed in this amphitheatre, the last to yield to the influence of the anæsthetic. Sensation here is so acute that it will remain long after other peripheral nerves have become benumbed.

This little growth seems insignificant, but it has given this woman an immense amount of suffering. Not only does she have pain during micturition, but even in walking she is compelled to straddle her legs to avoid irritation. Some of the more aggravated cases that have come to my notice have presented a train of symptoms that could hardly be supposed to be directly caused by such a little growth. There may be constant heat and throbbing of the external organs of generation, with more or less of leucorrhœa, and the linen may be often stained with blood and the urine streaked with it. Cohabitation becomes painful, producing the condition known as dyspareunia. It is at the first entrance of the male organ that there is the most pain. This is so intolerable that many women will not permit their husbands to approach them. This is, of course, a source of domestic unhappiness. By brooding over their sufferings and their incomplete conjugal relations the mind becomes morbid, and in some cases women have been driven to insanity or even suicide.

These torturing growths are more common to the married than to the single, and occur usually in women who have passed the prime of life. I am inclined to think that they owe their existence to

the congestion of the urethral plexus of veins, such, for instance, as is induced by the pressure of the gravid or displaced womb, or by that of an over-distended bladder or of a loaded rectum. In fact, pretty much the same causes are at work which tend to produce piles. They consist of hypertrophied papillæ covered with a layer of tessellated epithelium, and are largely supplied with nerves and blood-vessels.

Now comes the final question. What can we do to effect a cure? When there is a distinct pedicle, one snip of the scissors is all that is needed; but when, as in this case, they are attached by a broad base, difficulties arise which demand ether and assistance. The patient lies back, her knees being supported by these gentlemen, who also place their fingers on each side of the meatus and stretch it open. Catching the caruncle with a tenaculum, I raise it up and dissect it out, taking with it some of the sound flesh. The wound bleeds freely. In order to check the hemorrhage and to insure the complete destruction of the growth, we shall now cauterize it. I shall cauterize it as you would have to do in the country, and I shall not, therefore, employ on this occasion the Paquelin thermo-cautery, which, although it is by far the best and most convenient instrument for the purpose, is so expensive that few of you will be able to command it. You can therefore use the iron handle of a broken file heated to redness, as you now see me heat it, taking care, however, that your eyes are not exposed to any bright flame as the instrument is being heated, for the light may dazzle you, and a large black spot will follow and obscure your vision, no matter where you look. The pale flame of an alcohol lamp is therefore the best for the purpose.

Nitric acid is not so efficient a caustic as the hot iron. Formerly I always employed it, searing the raw surface of the wound with the frayed end of a match dipped into the fuming acid. It does not, however, always stay the hemorrhage, which is sometimes quite free. I shall never forget a scrape I got into some time ago while doing an operation of this kind. The patient was a very nice lady, but she was exceedingly reluctant to my having any other gentlemen present at the operation. Her sisters stoutly protested their ability to give the assistance that I said

was needed, and begged me to rely upon them instead of calling in any outside aid. This I finally consented to do. Everything progressed nicely until I began to dissect out the growth, when, suddenly noticing one of the patient's legs beginning to grow unsteady, I looked up and caught sight of one of the sisters going off in a fainting-fit. I instantly turned upon her and shouted, "Stop that! If you faint, I'll stick a pin into you!" This brought her to her senses and sent a flush of blood to her cheeks. By making a vigorous use of threats and by constantly talking to her I managed to keep her on her feet. Towards the end, however, she could not stand it any longer, and while I was applying the nitric acid she suddenly fell to the floor. In the confusion and excitement of the moment I unluckily upset the bottle of nitric acid over the handsome Brussels carpet. But this was not all. At my second visit, twelve hours afterwards, I found that the lady had lost and was still losing too much blood. I stanchd the bleeding point with ice and Monsel's salt, and put on a compress with a T bandage; but at my next visit, six hours later, I found her quite blanched from a recurrence of the hemorrhage. I now applied the solid stick of silver nitrate, but without avail; then I tried to nip the bleeding point with a *serre-fine*, but the tenderness of the part was so great that she would not permit any further interference, nor would she again inhale an anæsthetic. For a moment I was at my wits' end to know what to do. The prospect of spending the day at her bedside with my finger pressing on the urethra through the vagina was not an agreeable one; but I finally succeeded by stuffing a sponge half-way into the vulvar opening. Its elasticity and that of the perineum, on which it rested, made the needful pressure on the bleeding surface.

The after-treatment will consist of the application, twice a week, of the undiluted commercial carbolic acid until the raw surface has skinned over. If you follow the plan of treatment that I have laid down you will rarely have to repeat the operation. Although I have often burnt these caruncles, there has never followed any contraction of the urethra: mucous membrane does not undergo the cicatricial contraction that skin does.

Gentlemen, once in a while, in treating a woman for another disease, you will

come across a caruncle, and you may be tempted to remove it; but let well enough alone, and do not touch it, unless you know it to be of the painful kind. The suffering caused by them bears no relation whatever to their size, and, unless the symptoms are aggravated, it is best not to touch them.

ORIGINAL COMMUNICATIONS.

THE PRE-PHYSICAL SIGN STAGE OF PHTHISIS PULMONALIS.

Read before the Philadelphia County Medical Society, October 26, 1881.

BY J. T. ESKRIDGE, M.D.,

Lecturer on General and Physical Diagnosis in the Philadelphia School of Anatomy, and Physician to the Howard and St. Mary's Hospitals and Catharine Street Dispensary.

IN few diseases do the early symptoms differ more widely than those presented by different cases of pulmonary consumption. In some individuals the affection steals its march into the system so insidiously that its presence is not suspected by friends, casual observers, and often even by the physician, until unfortunate and serious inroads have been made upon the vital forces. In most cases, however, when the patient seeks medical advice, an examination reveals the fact that the disease has been in operation for some time. Some with incipient phthisis, from feelings of lassitude, general indisposition, and loss of appetite, have sought advice, in whose lungs no positive evidence of the disease could be detected.

Certain premonitory symptoms may, and often do, manifest themselves more or less in persons who soon become tuberculous.

The symptoms of consumption may be divided into two groups or stages,—the prodromic, those that precede the outbreak of the malady, as manifested by the development of physical signs by which a diagnosis is made or corroborated; and those present from the first manifestation of physical signs to the termination of the disease. To the former group some have been pleased to give the name pretubercular symptoms. If we adopt the view that tuberculosis is a special disease, requiring for its development, besides favorable circumstances, a taint of the system or means by which its communicability is possible,

it will be perceived that the first symptoms of tuberculosis are due to tubercle, and that a group of symptoms of the disease preceding the affection of the system by the disease is born of the merest fancy. On the other hand, if we accept the view expressed by Dr. Hughes Bennett, that tuberculosis is not a special disease, but that it is a retrograde process which may take place in the vascular tissues of any person whose general health is far below the norm, a pretubercular stage would mean nothing more than a lowering of the vital functions, adopting which the convalescing period of most diseases constitutes the pretubercular stage.

PRODROMIC SYMPTOMS.

Many cases of tuberculosis have apparently no appreciable symptoms preceding the physical signs. When the disease is ushered in by a severe cold following exposure to inclement weather, it usually manifests itself by bronchitis, with spots of pulmonary consolidation, or rapid infiltration of the parenchymatous tissue of the lung and localized bronchitis. Either of these conditions may take place in persons predisposed to the disease when subjected to undue hardship or exposure, whose general health before the attack would probably not have given the slightest suspicion of disease. In such it is a pulmonary or broncho-pulmonary inflammation, the structures involved take on a low grade of tissue-change, and the disease does not tend to end in resolution. In some persons a lobar pneumonia of the upper or lower part of the lung is followed by tuberculosis, and the infiltrated organ is rapidly studded with tubercle.

A careful study of many cases of phthisis has convinced me that not every one who dates the beginning of his illness from a "cold" was well previously to such an attack.

There is a form of consumption whose symptoms are so obscure, especially when occurring in a person of a delicate constitution, that the greater part of one lung may be consolidated and the individual almost ready to succumb to the ravages of the disease before the morbid process is detected. Dr. Hughes Bennett* mentions one such in the daughter of a physician, whose trouble was not detected until a

* Reynolds's System of Medicine, American edition.

large amount of the lungs were involved, and only two weeks before her death.

Excluding all such cases, there will remain quite a number with obscure and ill-defined symptoms of failing health before lung-involvement can be detected by experts in the best methods of physical diagnosis.

The importance which different individuals will give to their ailments, which may be only remotely connected with the lungs, depends largely upon the apprehensive state of the patient's mind. If some near relative has recently died of consumption, and the person has a vivid imagination, every ache, every pain, every cough, every sore throat, every sick stomach, every tired feeling, and every symptom (imagined or real) of the least deviation from what such a one may consider the normal standard of health is seized upon and magnified as the sure precursor of pulmonary phthisis.

Many or all of the symptoms that may precede fully-developed consumption may be caused by various other chronic maladies, prominent among which are chronic malaria and suppuration and disorder of the generative organs, especially in the female. When, therefore, any of these disorders are present in a person predisposed to tuberculosis, whose general health excites suspicion of phthisis, it is impossible, without great care, patience, and skill, to make even a probable diagnosis before the physical signs in the lungs are sufficiently developed to be detected. I would not ignore or undervalue the symptoms which often precede certain forms of consumption; but in studying them, so great is the chance of being misled, that every one must be well weighed and the corroborative circumstances taken into account before an opinion is expressed. I feel sure that the importance of the early symptomatology of pulmonary consumption could be greatly improved by records of carefully-studied cases running over years in some instances before any decided impression is made upon the lungs by the disease.

If consumption can be arrested, it is evidently much more easily effected before than after appreciable lung-involvement.

The prodromic symptoms may be divided into subjective and objective. The subjective are quite numerous; the objective, few,—viz., pulse, respiration, and temperature.

SUBJECTIVE PRODROMIC SYMPTOMS.

Appetite.—This may be capricious, certain articles being taken with a relish, or it may be almost entirely lost: nothing in the way of food is enjoyed, the individual never getting hungry, and what is eaten is taken against the protest of the stomach. The latter condition is the exception rather than the rule, and is much more frequently met with in the anæmic condition of young girls suffering from menstrual disorders than as a symptom of the ill-defined stage preceding developed phthisis. In one case coming under my care the appetite was much increased for several weeks preceding a profuse pulmonary hemorrhage, which ushered in the first-recognized symptoms of what proved to be acute tuberculosis.

Indigestion.—I have found this to be one of the most constant derangements accompanying the development of the tubercular state; in fact, it is rarely absent in those cases that are followed by a high temperature and considerable constitutional disturbance, becoming more marked as the disease progresses. It may take on various forms: there may be a sense of weight at the stomach after eating, making the individual conscious of the digestive act; there may be acid or alkaline eructations, or—what I have most commonly met with a few minutes or an hour or more after eating—a portion of the meal is vomited without any sick feeling of any moment preceding or following the act. When this form of indigestion persists for some time in a person predisposed to tuberculosis, it makes me apprehensive, especially if there is a gradual

Loss of flesh.—This symptom, like the preceding one, is rarely absent; but so numerous are the causes that may produce it, and as a periodical decrease in the weight of the body is so often associated with perfect health, it is difficult to know what stress to lay upon it.

In general, when a person with a fair appetite, under favorable circumstances, is gradually losing flesh, in whom no other apparent cause can be found than a predisposition to tuberculosis, this disease should be feared; and the apprehension will be strengthened if other symptoms of consumption are present. I find in looking over my recorded cases that not a few had been gradually losing flesh from six months to several years before any decided lung-involvement could be detected. When,

however, other causes are present and operating in giving rise to loss of flesh, in whom phthisis of the lungs is being gradually developed, the difficulty of assigning to each individual symptom its true significance is greatly enhanced.

Pallidness.—It is only in the more slowly developed cases that this symptom is of any service in the diagnosis. It differs from the swarthy appearance in cardiac weakness and from the waxy look in renal disease. The conjunctivæ may become pearly and the individual present a peculiar tight-skinned, bleached appearance, as if the blood is being gradually impoverished and the subcutaneous fatty tissue absorbed; add to this the evening blush, the hacking cough, the accelerated pulse, and the heightened temperature, and you have an array of symptoms which will excite the suspicion of the merest tyro; yet the best expert, in a few cases, is unable to make a positive diagnosis from the physical signs present.

Muscular weakness, tired feelings, and indisposition to physical exercise are usually associated, and are due to the same cause,—lessened vital force. In a case of gradually-developed phthisis it is rare that these sensations are not complained of before a diagnosis can be made by the pulmonary signs. An individual thus affected, if he be an athlete, finds that it requires extra exertion to perform the usual amount of physical exercise, and soon he is unable to perform the feats of strength which formerly had not tasked him greatly. Such a person complains of tired feelings and says he is scarcely ever rested; he goes to bed tired and gets up the same; he complains of aching pains in his muscles; and on account of the muscular weakness and tired feelings he is indisposed to take much physical exercise. The indisposition in some cases is a marked feature, and becomes more prominent as the disease progresses. I have seen some cases of tuberculosis in persons who, before of industrious habits, would rather undergo the annoyance of thirst than to disturb their quiet by the necessary effort required to procure water. From observing this phenomenon in a limited number of cases of beginning phthisis, I have found the greater the indisposition to exercise, the more the chances are that the disease will rapidly develop and run a short course.

Irritability of temper has been given by

some as one of the prodromic symptoms of the disease under consideration. It is a well-known fact that persons sick from any cause bear the annoyances of life less calmly than in health; but I have been unable to satisfy myself that it is more marked in persons suffering from incipient phthisis than in those afflicted with other diseases of a very depressing nature. This I have noticed,—that persons confined to their bed with consumption bear neglect on the part of their friends and attendants with less patience than persons alike prostrated from any other disease.

Anxiety and nervousness are often prominent symptoms during the prodromic stage of consumption. An individual thus afflicted becomes over-anxious about himself and lays unusual stress upon and magnifies vague symptoms. The doctor is consulted; and if he assures his patient that nothing positive can be detected, his mind is quieted for a time; but soon the doctor's advice is again sought,—this time for some symptom forgotten at the previous visit, or, perchance, one alluded to by the physician of which the patient had not previously complained; or yet, what is more common among people of wealth, one doctor after another is consulted until positive evidences of pulmonary disease have been developed. The anxiety exhibited by an individual over various symptoms thus early in the disease contrasts strongly with the stolid indifference often shown later, when, despite every symptom to the contrary, the unfortunate sufferer frequently persists in denying that he has consumption.

Irregular alvine discharges.—As a premonitory symptom of consumption, irregular action of the bowels is most usually found in gradually-formed cases, or what has been termed "chronic phthisis." This has been a prominent feature of this stage of the disease in several individuals coming under my care: in one man, who has since died, it was present two or three years before I could detect any decided affection of the lungs. In some persons the irregular action of the bowels consists in periods of diarrhœa alternated by constipation. During the attacks of diarrhœa the evacuations, although often frequent, are not usually large; the fæces consist of hard lumps covered with a frothy mucus; more or less pain or an uneasy feeling is experienced by the individual during defecation.

If the action of the bowels is left alone during the periods of constipation, an evacuation will not take place oftener than once in two or three days. The patient during this time is dyspeptic, and if he eat articles of diet difficult to digest he will suffer from eructations of gas and sour mucus. Feeling better during the occasional attacks of diarrhoea, he considers himself of a bilious temperament, and resorts to all kinds of purgatives supposed to have an action on the liver. If such a person will lead an active out-door life, his symptoms will materially improve; but if his business of a sedentary character be continued, he becomes a confirmed dyspeptic and hypochondriac.

Disordered menstruation.—The disorders of menstruation occurring during the incipient stage of phthisis are painful menstruation, diminished and absent menstrual flow. Diminished menstrual flow and painful menstruation are disorders of women of so frequent occurrence, both in the married and unmarried, that they can have but little weight as premonitory symptoms in the diagnosis of phthisis. Suppressed menstruation as a symptom of phthisis usually does not occur until the disease can be detected readily by a physical exploration of the chest; but if it take place early I know of no subjective symptom of more importance in the diagnosis.

Aversion to fatty articles of diet.—Formerly, writers on pulmonary phthisis laid great stress on this as an early symptom of great importance, although of late less significance has been attached to it. Speaking from experience, I do not think this symptom has much value, for the habit of rejecting all fat from the lean of meat is more frequently absent than present, and it is commonly found in persons of delicate health, irrespective of consumption. I find many persons with undoubted incipient phthisis who take, digest, and relish fatty articles of diet not usually borne by persons in good health. On the other hand, many in the enjoyment of vigorous constitutions who, so far as we know, never become phthisical, have a disgust for fatty food, and cannot digest small quantities of it without considerable inconvenience. If this symptom has any special value in the early diagnosis of phthisis, I think it will be found limited to those cases attended by a marked rise in the temperature and considerable constitutional depression.

Inability to perform the usual amount of labor.—In gradually-developed phthisis this is usually a prominent feature before the lungs are sufficiently involved to enable one to detect the disease by a physical exploration of the chest. The individual will complain on going up and down stairs, or on walking against the wind, of shortness of breath and palpitation of the heart. This symptom is not of much importance in the shorter cases whose marked constitutional disturbances come on suddenly.

Activity of mind.—Dr. Da Costa refers to the great vividness of the imagination as a symptom of consumption, but he does not speak of it as occurring especially early in the disease. In slowly-formed cases of this trouble I have frequently noticed the mind during the prodromic stage to be less vivid in its imaginations than in health, save to magnify special ailments; and, in fact, dulness of the intellect has been a prominent symptom in some individuals who were of a despondent turn of mind. Although in some of the more chronic cases the mind seems to be blunted early in the disease by over-anxiety for health, this is by no means the universal state of affairs, for some thus afflicted present as an early symptom unusual brightness of intellect.

As a precursor of acute phthisis, I have frequently observed periods of one or more months, immediately preceding the outbreak of the disease, during which the mind was very active. In some individuals this state of mind has been so marked as to attract the attention of the parents and friends; and just as high hopes were being entertained respecting such a one's future career, sudden pulmonary hemorrhage has ushered in the disease with an array of symptoms which soon put an end to all hope.

Chest-pains.—These are more commonly present after the lung has been involved to a considerable extent, and are then most certainly due to an inflammatory affection of the pleuræ. In no small proportion of cases they precede the physical signs of the disease by months or years, and, what seems strange, they are often complained of most on the side opposite to the one affected. It is probable that these early pains, like those experienced later in consumption, are due to local spots of pleuritis too small to be detected by the ear. They are described as starting in the front part

of the chest and extending to one or both shoulder-blades, and as often being dull in character, except on a full inspiration, when they become sharp; at other times they are spoken of as being a sense of tightness or uneasy feeling in the upper portion of both lungs. Individuals thus afflicted not infrequently complain of sharp, shooting pains in the muscles of the neck, shoulders, and chest, owing, it may be, to the neuralgic condition supervening upon the impoverished condition of the blood. However vague and shifting these pains are, they have a certain amount of significance when found in connection with other symptoms of incipient phthisis. I have several persons under my care at present who have complained of chest and other associated pains for about two and a half years, who now begin to present undoubted evidences of lung-involvement, as evidenced by a careful physical exploration of the chest. In these cases the pains referred to became gradually more frequent and localized, and other symptoms of the disease in its incipency, becoming more marked each year, were present.

Hoarseness.—This is often found in persons who soon show undoubted signs of pulmonary consumption. The period during which it may precede the development of the physical signs varies from months to years. In that class of cases called by Dr. Hughes Bennett laryngeal phthisis, in which the laryngeal trouble seems to precede that of the lungs, hoarseness is very liable to be a prominent symptom throughout the disease, although some of these cases lose more or less of their laryngeal character as the lung-tissue becomes infiltrated.

In all cases of chronic hoarseness, or when the voice is affected by slight changes in the atmosphere, or when there is a chronic laryngeal cough or chronic laryngitis in a person predisposed to tuberculosis, or when a person presents other symptoms favoring the suspicion of tubercle, the larynx should be carefully examined by means of the laryngoscope; for it is well known that great damage to the vocal apparatus may be made by the ravages of this disease before any structural alteration can be detected in the lungs.

According to the statements of Drs. Cohen, Seiler, and other laryngoscopists, many cases of tuberculosis may be positively diagnosed by a careful examination

of the larynx before the skilled auscultator is able to detect any disease in the lungs.

A point to which attention has been called by Dr. Hughes Bennett—and one which I have reason to believe has been often overlooked by the busy practitioner—is that “the laryngeal symptoms may completely mask the pulmonary lesion by giving rise to a hoarse, rough murmur on inspiration, which renders the physical signs at the apex of the lung inaudible; and, unless decided dulness be present, the disease is liable to go undetected.”

Cough.—While hoarseness is an occasional symptom preceding the physical signs of consumption, cough is almost a constant one, and is often the first thing that attracts the attention of the patient and his friends, antedating, in many instances, the development of the physical signs by months or years.

Its character varies, being more frequently of a dry, irritative nature; yet it may have a loud barking or ringing quality, the latter depending probably upon the seat of the irritation, whether it be in the larynx, bronchial tubes, or pulmonary tissue. Irritation of the recurrent laryngeal nerves is the immediate cause of the cough. As a cough may arise from so many causes, it is difficult to know what importance to attach to it as a symptom of pulmonary phthisis when no disease of the lungs can be detected by the physical signs present. If no cause for a cough present in a given case can be found outside of the lungs, disease of these organs should be apprehended; and such an opinion would be strengthened if other symptoms of pulmonary trouble were present, although the physical signs still remained negative. I have not met with a single case of chronic consumption coming under my care before the development of recognized physical signs which did not have some cough as a symptom, although in some it has only been a short hack, or, as others express themselves, an occasional desire to clear the throat. Many who are so little troubled with cough deny, in a general way, the presence of this symptom; but if such persons are closely questioned in regard to it immediately after rising in the morning or after eating or taking unusually active exercise, they will rarely fail to acknowledge that they have a slight cough at these times.

According to some authorities, there are

a number of cases of consumption that have no cough as an early symptom, and in not a few the disease may be well advanced—even to breaking down of the consolidated lung-substance—before cough is noticed. All phthisical persons that have given me such a history, on close questioning, have admitted occasional cough previously to the time from which they dated their illness, although they had not supposed that this had anything to do with their lung-trouble.

Pulmonary hemorrhage.—According to some, whose opinions, on account of their great experience, must be respected, this is not an infrequent premonitory symptom of pulmonary phthisis. Most cases of hæmoptysis coming under my care, however, have either occurred in individuals whose lungs presented slight physical signs of disease, or the hemorrhages have been vicarious or otherwise disassociated from tuberculosis. The number in whom consumption has subsequently developed has been reduced to two or, at most, three. Sometimes the area of consolidation, when hemorrhage occurs, is quite small; but by a careful examination of the lungs, as soon as the arterial excitement has been allayed, impaired percussion resonance and harsh respiration have been detected under one clavicle, and, in rare cases, posteriorly above the spine of one scapula. A rarer form of pulmonary hemorrhage is one which is most frequently found occurring in children, and often follows whooping-cough. In this form no pulmonary dullness can be detected at the time of the hemorrhage, nothing but a localized apical bronchitis being present to give rise to the loss of blood. Dr. Hughes Bennett mentions similar cases, one of which was about six years in running its course before death; but at no time was there any dullness on percussion.

A child four years old, who was prostrated the early part of this year by a severe attack of whooping-cough, has been under my care recently at the Catharine Street Dispensary, suffering with repeated hæmoptysis, the physical signs being those of double apical bronchitis and emphysema.

OBJECTIVE SYMPTOMS.

Under this division I shall include three symptoms which might be, and are by some, included under the physical signs; but, as they can all be investigated without any

reference to the lungs, it suits my purpose best at present to class them as above stated. They are the respiration, pulse, and temperature, the first of which is of the least importance as a prodromic symptom of phthisis. In the chronic cases of this disease one lung will be sufficiently involved to give rise to physical signs before the respirations, when the individual is quiet, will show any material acceleration; and in this class it will often be found that after one lung has become almost solid, if the patient has been quiet some time before the examination, the number of respirations may not be increased more than one or two per minute. The only cases in which the respirations are notably quickened during the prodromic stage are those of an inflammatory nature and that run a short course; and even in these the period of sufficient excitement to materially modify the normal respirations is often so short that it passes entirely unnoticed.

The pulse, though often only increased in frequency in proportion to the respiration, is of far more importance than the latter as an early symptom of consumption, because other modifications of it from the norm are of more value than its frequency,—such as its volume, regularity, and steadiness.

The time was when the pulse received too much attention, to the exclusion of variations of equal or more important functions; but now, through the multiplicity of symptoms which modern science has arrayed as the indices of disease, the other extreme has been reached, in which the pulse is often only examined in a routine way, without any particular endeavor to ascertain the slight modifications that it has undergone. It is impossible to make a thorough examination of a patient suffering with any disease that disturbs the circulatory apparatus without a careful consideration of the different changes that the pulse of such a one presents.

In the gradually-developed cases of phthisis the only abnormal phenomena that the pulse shows previously to the development of physical signs are increased frequency and want of tone,—just what we find in all persons suffering from lowered vitality. Although in such cases no special importance can be attached to the character of the pulse, yet when these phenomena are associated with other symptoms of

phthisis their meaning should not be overlooked. In cases that are more decidedly inflammatory in their nature, and especially in those that run a comparatively short course, the pulse gives undoubted evidences of severe constitutional disturbance before the lungs (from the physical signs present) can be positively said to be the seat of the trouble. The pulse is quickened and at times increased in force, but it is nervous, vibratory, and compressible. It is rare that we have an opportunity to examine the pulse for a length of time during the prodromic stage of the more acute cases of tuberculosis, for the patient, previously to a hemorrhage, a high fever, or other evidences of great constitutional excitement, feels so well that a doctor is rarely consulted. I have not had the opportunity of studying the pulse of an individual for a few weeks previously to his having been attacked by acute miliary tuberculosis, but I have quite a number of interesting observations of the pulse, temperature, and respirations, extending over months, of persons subsequently attacked by pulmonary phthisis,—some being of the chronic, others of the subacute form; and each of these records shows a pulse varying from the norm in proportion to the severity of the disease subsequently more fully developed. At times during the prodromic stage of consumption the pulse will appear nearly normal, most other symptoms of a disordered condition of the system vanish, and the individual feels moderately comfortable (not well); but suddenly, after some slight change in the weather, the whole group of ailments previously complained of return. The changeableness of the symptoms depending upon the condition of the weather, although found in other maladies, appears, owing to its pointing to disease of the lungs, to have considerable diagnostic value.

Temperature.—Prof. Flint, in speaking of the temperature in pulmonary phthisis, says, "When it is a question as to diagnosis, increase of the temperature is evidence for, and absence of any increase is evidence against, the existence of the disease." Dr. Bennett* says, "According to Dr. Ringer, the heightened temperature of the body, as determined by the thermometer, indicates the deposition of tubercle for several weeks before physical signs are developed.

It is true," continues Bennett, "that a similar increase of the temperature occurs in a few other diseases, but their symptoms are readily separable from those of phthisis. This new method," he continues, "of recognizing the disease at an early stage, requires more extended observation before it can be generally adopted."

I have been in the habit for the last few years of keeping the temperature records of all cases of consumption that have come under my care, both in private and charity practice, and, more than this, I have from time to time taken the temperature of all who presented suspicious symptoms of the disease. My observations in this direction now include several hundred cases; but, unfortunately, most of these were not seen by me until the physical signs of the disease made a diagnosis quite easy.

It would take up too much of the Society's time for me to read in detail the records and histories of all the cases in which a diagnosis of phthisis was almost positively made by means of the temperature, aided of course by other symptoms, before the development of the physical signs of the disease. Suffice it for me to give the results of my observations on the temperature as an early symptom of the deposit of tubercle in the following statements, subject to modification by more extended research in this direction:

1st. All cases of phthisis that I have seen early have been attended by a longer or shorter period of heightened temperature preceding the development of physical signs.

2d. The height of the temperature varies with the rapidity of the morbid action; and a sustained high temperature throughout the prodromic stage indicates that the disease will be of short duration, and *vice versa*.

3d. As after physical signs are present there may be periods of lull when the thermometer will show a normal temperature, so during the pre-physical sign stage, after the temperature has been above the norm for several days, there may be for a variable time marked remissions in the body-heat or an entire absence of any febrile excitement.

4th. An axillary temperature sustained at 99° for several weeks in a person predisposed to phthisis should excite suspicion.

5th. In rare cases the morning temperature for several days may be higher than

* Reynolds's System of Medicine.

the evening; therefore thermometric records, to be satisfactory, should be made at various times of the day, including morning and evening, and they should extend over a period of one to several weeks.

In the pre-physical sign stage of phthisis there is no one symptom on which one can rely to the exclusion of all others; in fact, all the available symptoms only make a diagnosis approximate in the absence of all physical signs of the disease. The utility of paying so close attention to the early symptoms of consumption may not be apparent to all if a positive diagnosis cannot be made by them. Every one who has thoroughly studied this subject agrees that if anything can be done as a curative measure it must be done early, and that to wait in many cases for the presence of physical signs is to wait until just so much of the body as these represent is dead, and until the vital forces are so overwhelmed by the tubercular process that treatment can avail but little. When the lungs are examined and found not to present the physical signs of phthisis, the physician—although there may be an array of suspicious symptoms—too frequently assures his patient that he can find no evidence of pulmonary disease; and one with his mind thus relieved of grave apprehensions continues a course of living which too soon hurries on the physical signs of a disease which should have been previously apprehended and perhaps prevented. All individuals seeking advice whose general symptoms point towards consumption, although physical signs be absent, should be more carefully watched than those with fully developed phthisis; and if a given train of suspicious symptoms do not improve under the best hygienic and medicinal measures obtainable at home, a change of climate should be recommended for those who are able to avail themselves of it.

DOUBLE FEMORAL ARTERY.

BY J. P. CROZER GRIFFITH, M.D.,
Philadelphia.

FROM a surgical stand-point this is one of the most interesting and important of the arterial anomalies occurring in the lower extremity. I can find only five cases on record. In these the femoral divided into two branches at about one and one-half to two inches from Poupart's

ligament, and below the origin of the profunda femoris. These branches ran parallel and close to each other, and reunited above the opening in the adductor magnus, thus forming a single popliteal artery.

The first case—Sir Charles Bell's*—was discovered after an operation by this surgeon upon a negro suffering from popliteal aneurism. After ligation of the supposed femoral, the pulsation ceased, but in a few seconds recommenced very distinctly. Nothing further in the way of operative procedure being deemed advisable, the wound was closed. In half an hour's time, pulsation in the tumor was nearly as distinct as before the operation. On the third day after, pulsation ceased. In a few days more the patient died, and the subsequent dissection showed that the femoral divided just below the origin of the profunda femoris into two nearly equal branches, which ran parallel and close to each other, and reunited at the point at which the artery passed through the adductor magnus.

In the second case—Houston's†—the division took place at one and three-quarter inches below Poupart's ligament. The branches, of which the internal was somewhat the larger, continued parallel, and reunited at precisely the point of passage through the adductor magnus. The anastomotic magna originated from the external branch just as it joined the internal.

The third case—Tyrrel's‡—occurred in a mature foetus.

In the fourth case—Quain's—the femoral divided somewhat farther from the origin of the profunda femoris, and the branches reunited a short distance above the opening in the adductor magnus. This author states that he examined twelve hundred cadavers and found but this single case.§

The fifth case is Tiedemann's|| In this the reunion of the branches occurred at a considerable distance above the opening through the adductor magnus.

There is also a case reported by Ducachet,¶ but it cannot properly be included here. The femoral was tied previously to

* London Medical and Physical Journal, vol. lvi. p. 134, 1826.

† Dublin Hospital Reports, vol. iv. p. 134, 1827.

‡ Quain on the Arteries, p. 515, 1844.

§ Quain on the Arteries, p. 514, 1844, Plate lxxi. Fig. 2.

|| Explanations to Collection of St. Bartholomew's Hospital, London, p. 108, 1846.

¶ American Medical Times, March 21, 1863.

amputation, and in making the section of the upper flap an artery the size of a quill was seen to bleed. At the autopsy it was found that the femoral divided below Poupart's ligament and above the origin of the profunda femoris, and that at the point of ligation the branches were separated about two inches. Nothing is stated as to reunion, and we cannot presume upon it.

Three cases are also mentioned by Gooch* in which he noticed in the stumps, after amputation, two femorals. But these also have to be excluded, for the same reason,—that we know nothing touching the reunion. I have heard it stated that another case has been recently reported; but I have been unable to find any account of it.

While dissecting in the anatomical rooms of the University of Pennsylvania in the spring of 1880, I was fortunate in finding another, the sixth, example of this anomaly. It was in the right leg of an adult white man. The division took place about four and a half inches below Poupart's ligament, and the branches, after running parallel and close to each other, reunited three-quarters of an inch above the opening through the adductor magnus. The length of the islet thus formed was three and one-half inches. The external branch was considerably smaller than the internal. The anastomotica magna left the femoral exactly opposite the point at which the union took place.

There was also an anomalous origin of the profunda femoris,—as it arose with the internal circumflex by a common trunk from the posterior aspect of the femoral.

This case differs from those previously described in that the division took place farther from Poupart's ligament, thus making the islet and the branches of shorter length. It appears most nearly to resemble the case of Quain.

REMARKABLE CASE OF GUNSHOT WOUND IN THE HEAD.

BY C. D. BOBO, M.D.

ON the morning of the 3d of August last, Mr. Thomas L. Byrne, of Nevada City, was shot in the head. The ball entered the forehead, three inches above the left eyebrow, three-fourths of an inch

to the left of the median line, passing diagonally through the brain and lodging in the right cerebellum. Three hours after the shooting I was called to see the patient. Found the hemorrhage had been inconsiderable; blood was still flowing slightly, with occasional small particles of brain; pulse full and regular, 60 per minute; vomiting freely and often. As soon as the vomiting ceased, I passed a silver probe down to the ball; found distance to be six and a half or seven inches. I made no attempt to extract the ball.

The one-eighth of a grain of sul. morphia being administered at intervals of two hours, soon relieved the vomiting. The patient remained unconscious for some thirty-six hours, after which time he became conscious and recognized every one around him. At this time the pulse ran down to 48 and 50, and remained at that figure for four or five days. I then gave him one-grain doses of sul. quinia every three hours for forty-eight hours, at which time the pulse came up to 68 and 70, and remained steadily at that point for two and a half months. The dressing to the wound was a napkin wet with ice-water changed every ten or fifteen minutes. For one week his diet was gruel and soup. After that time I gave him a generous diet, which seemed to agree with him well. His bowels were kept in good condition by the aid of mild cathartic pills and enemas of castile soap and water. He gained flesh for some time, and I had some hope of his recovery; but at the beginning of the tenth week I found the pulse had gone down to 60 and much smaller. From this date he gradually grew weaker and more emaciated. A very little pus flowed from the wound all the time, quite healthy, and not more than one-half a fluidrachm per twenty-four hours. He did not complain much at any time. There was slight paralysis of the right arm and leg from the beginning. This increased as he began to sink. At the end of twelve weeks he died without moving a muscle in his face.

The autopsy revealed the following facts. The diagnosis as to the location of the ball was correct, and the ball was not the cause of the death of the patient directly, but indirectly. When the ball broke the skull it carried with it a portion of the bone half an inch long, one-third of an inch wide, and the thickness of the skull. This was driven down into the brain a distance of

* Philos. Transac., vol. lxx., Norwich.

two and a half inches. This piece of bone was the great trouble. Near it and a little to the left I found a very large abscess, certainly as large as a hen's egg. This abscess contained a thick greenish pus, quite fluid. The brain, posterior to it, was entirely broken down and soft, parts of it almost in a suppurating condition. The right hemisphere of the brain was very nearly in a normal condition. No suppuration whatever in the cerebellum where the ball was resting.

The above facts demonstrate most clearly to me that a man may be shot entirely through the brain and yet live, notwithstanding the ball is not removed.

NEVADA CITY, October 30, 1881.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINICAL SERVICE OF PROF. JOHN ASHHURST, JR., M.D.

Reported by WM. H. MORRISON, M.D.

ANEURISM OF THE FEMORAL ARTERY.

GENTLEMEN,—The first case that I propose to show you to-day is of interest; but we are not prepared to begin the treatment just now, as the man wishes to attend to some private matters before entering the hospital. To-day I wish simply to call your attention to him and make some remarks on the symptoms of his disease.

You notice that there is on the right thigh a small lump, in the course of the femoral artery. I place my hand on the lump, and I find that it pulsates. More than this, I find that the pulsation is not an up-and-down movement, as occurs when a tumor is seated over the course of an artery. When I place one hand on each side of the lump I feel the pulsation with both hands at the same time. There is therefore an expansile pulsation. Those of you who are familiar with the laws of hydraulics will infer from this that this tumor contains fluid, for you know that fluids transmit pressure equally in all directions.

Besides the peculiar character of the pulsation, we have other symptoms of interest. When I place my ear over the tumor I think that I can recognize a slight rustling, not a distinct bruit, as we often meet with in aneurism; for you will have

inferred from my remarks that I consider this a case of aneurism. I am not surprised at not finding a well-marked bruit, for in small aneurisms this symptom is much less distinct than in larger ones. This bruit is produced by the blood entering the mouth of the sac, just as when you blow across the mouth of a bottle there is a peculiar rushing noise produced.

I do not observe any thrill over this tumor. From this I infer that the opening into the sac is at a distance from my hand. Mr. Savory, an eminent London surgeon, has pointed out that the thrill is most distinctly felt when the opening of the sac is on the side of the artery not towards the surgeon; in other words, if the opening were on the posterior surface of the artery, and the artery was between the sac and the surgeon, the thrill would be more distinct than when the opening was on the anterior surface of the artery and the sac was between the artery and the surgeon.

There is another point which makes me think that this is aneurism. When I make pressure on the artery above the tumor, not only does the pulsation cease, but the tumor, from feeling solid and hard, becomes soft and flabby. Sometimes, by making pressure below the tumor, its tenseness and hardness are increased; but in this instance I do not observe any change from distal pressure.

From a consideration of these points, I believe that we have here an aneurism of the femoral artery. It is still quite small, and I think that we can effect a cure by compression above the sac. When the man returns I shall call upon members of the class to assist us in making compression, and we shall endeavor to effect a cure by digital compression.

I might say something in regard to the classification of aneurism, for this is a matter in regard to which the greatest confusion exists. Many different conditions have been known as aneurisms. We have the so-called cirroid aneurism, or arterial varix. This is a dilated and tortuous condition of an artery something like the condition seen in a varicose vein. Again, there is the aneurismal varix, in which there is a communication between an artery and a vein without the interposition of a sac. This is one form of arterio-venous aneurism. Still further, we have the varicose aneurism. This is to be distinguished

on the one hand from aneurismal varix and on the other hand from the cirroid or arterial varix. The varicose aneurism is also one form of arterio-venous aneurism, but there is between the artery and the vein a distinct sac. In dissecting a varicose aneurism you would first open the vein which would lead by a small opening to the sac, and then, on opening the sac, you would find a small opening leading to the artery.

Then there are traumatic aneurisms, or those resulting from wounds. The diffused traumatic aneurism is really no aneurism at all. It is the result of the rupture of an artery, by which the blood is thrown out into the cellular tissue; it is a sub-cutaneous wound of an artery. You may have an artery ruptured, a small amount of blood thrown out, and a sac formed by the condensation of the cellular tissue. This constitutes the circumscribed traumatic aneurism. It is an aneurism, clinically speaking, but its pathology is the same as that of the diffused traumatic aneurism. A true circumscribed traumatic aneurism is one in which there has been a wound of an artery which has healed, but subsequently the inner coat of the artery has given way at the seat of the cicatrix, the artery dilates, and an aneurism forms. Again, we have the hernial aneurism, where the outer coats of the artery are ruptured and the inner coat protrudes through the rent forming the aneurism.

Now as regards the ordinary aneurisms where there is no traumatic history. In this case the patient attributes this aneurism to walking. He is a mail-carrier, and has to be on his feet a great deal. He has had syphilis; but I do not think that syphilis has much causative relation to aneurism. I think that when they occur in the same case it is rather a coincidence. Aneurisms of this class (those arising from non-traumatic causes) are divided into true and false aneurisms. True aneurisms are those in which all the coats of the artery are involved. This is very rare, except in the fusiform aneurisms. Most aneurisms are at first true aneurisms, but as the sac increases in size the inner and middle coats give way, and the sac is formed by only the outer and perhaps a small portion of the middle coat. This constitutes a false aneurism. If the outer coat gives way we have produced a diffused false aneurism.

Besides this, aneurisms are divided according to their form into tubular, fusiform, sacculated, and dissecting, this latter being found only in connection with the aorta.

This patient will return to the hospital in a short time, and we shall then institute the treatment that I have suggested.

There is another symptom sometimes met with in aneurisms,—*i.e.*, diminution in pulsation below the sac. This has been explained by some as being due to the pressure of the aneurism; but the correct explanation is, I think, that it is due to the elasticity of the sac,—to what may be called the stand-pipe action of the sac. Those of you who are familiar with the hydraulic ram will remember that it contains an air-chamber. The water entering this air-chamber compresses the air, and the rebound of the air drives the water on through the long pipe, carrying it to the reservoir. The compressed air keeps the column of water in constant motion and prevents loss of power from interruption of the current. The same purpose is accomplished in our city water-works by the stand-pipe, in which the water is constantly rising and falling. Precisely like the action of the air-chamber is the action of the sac of an aneurism. The blood is driven into the sac, expanding its walls, which, contracting, drive the current on, and thus you have below the aneurism a more constant stream and with less pulsatile variation than above it.

EXCISION OF A PORTION OF THE TIBIA FOR DEFORMITY.

Here is a patient who has been in the hospital some time. Looking at his left leg, you see a remarkable deformity. There is a marked curvature of the tibia, and also some overgrowth or hypertrophy of the bone. He has not been able to give us any definite explanation for this curvature. He says that he sprained his leg, that it became painful, and that this curvature gradually occurred. There has been here, an inflammatory action, an osteitis, accompanied by an excessive growth, which, as you know, frequently accompanies inflammation of the bone. Osteitis is one cause of enlarged bone. This overgrowth is usually only in the thickness, but sometimes also in the length. In this case, however, the tibia is shortened, which is a more common result than lengthening. This distortion renders the patient unable

to walk, except on the side of his foot. We sometimes meet with this deformity in early life as a result of rickets; but our patient is too old to be affected by rickets, and, besides, the condition is limited to one bone. There is no evidence of fracture.

What I propose to do is, after applying Esmarch's bandage and tube, to lay up a flap over the convexity of the bone, and then cut into it, either with the trephine or a small drill, to ascertain if there is any active inflammatory disease; and ultimately I shall probably remove a wedge-shaped portion of bone from the tibia, large enough to allow us to straighten the limb. Of course the limb will then be shorter than the other, but it will be much more useful.

I should say that before recommending an operation of this kind we have put the part at absolute rest and applied a plaster bandage to see if there would be any disposition on the part of nature to restore the limb to its proper shape; but there has been absolutely no change. The man seems to be in perfect health, except for this crooked leg. The fact that this deformity is limited to one bone would do away with the idea that it was due to syphilis or any other constitutional disease. It is probably the result of some local injury which the patient has not noticed or has forgotten.

If, after removing a portion of the tibia, I find that the fibula interferes with the straightening of the leg, I may be obliged to make a simple section of it. After the operation I shall place the limb in this bracketed splint, so that the dressings may be applied without any disturbance.

Operations on the bones are those of all others where Esmarch's bandage is useful. It prevents the flow of blood, which is profuse in these operations, and thus enables you to see what you are doing and to avoid injuring important tissues.

I now expose the bone by laying up a semilunar flap. The tissues over the bone are almost cartilaginous, as if this had been the seat of an old fracture. I now apply a small trephine, and if there is any active inflammation, if there is any pus, or if there is a sequestrum, I shall be able to find it. The cavity of the bone may be entirely obliterated. If I find no active disease I shall include the trephine-hole in the part that I shall remove.

I find that the bone is dense all the way through. I think that the best thing to be done is to remove a wedge-shaped piece of bone from the tibia. It will be safer—on account of the proximity of the tibial arteries—to do this with the chisel rather than the saw. In using the chisel I apply the side that is not bevelled to the part of the bone which is to remain, in order to prevent any bruising of the bone and to leave a smooth surface. I now have removed sufficient from the tibia; but I shall also have to divide the fibula. Having done this, I can easily straighten the leg. I find that the fibula has been broken, and that there is much overlapping of its fragments. This explains the case. There has been fracture of the fibula, with contusion of the tibia, followed by inflammatory softening and bending. The next thing to be done is to drill a hole in each piece of the tibia, pass a strong wire through them, and thus bring the two parts accurately together.

I now remove Esmarch's tube, so that if there is any bleeding it may be controlled before closing the wound. The wound over the tibia will require two or three stitches, and the wound over the fibula one. The splint is secured in position, and the foot is fastened to the foot-piece by adhesive plaster. The wound is dressed with simple olive oil, and over this oiled silk and oakum held in position by a roller.

Of course this operation makes a compound fracture, and the case is therefore one of some danger; for compound fractures are always more or less dangerous. If a simple section of the bone had been all that was necessary, it could have been done without an external wound, subcutaneously; but we could not remove a wedge-shaped portion of the bone in this manner.

TRANSLATIONS.

GUNSHOT WOUND OF THE BRACHIAL NERVES, WITH RESULTANT ATROPHY OF THE LIMB.—Dr. Oscar Israel (*Virchow's Archiv*, Bd. lxxxv. p. 110) gives the case of a man who in 1848, at the age of 20, received a gunshot wound in the left shoulder, entering the chest in the outer border of the pectoralis major and emerging in the lower third of the scapula. A month later, the patient was one day suddenly seized with a feeling as of a blow on

the head, and fainted. When he recovered consciousness, he was found to be paralyzed in the right side of his face, and soon after began to show signs of insanity, so that he had to be secluded. No further history, except of occasional alcoholic excess, is given until August, 1880, thirty-two years after the accident. At that time the patient was carefully examined, and was found to present scars at the point of entrance and exit of the bullet, and also on the inside of the left arm. The arm itself was markedly reduced in size, the forearm and hand being particularly emaciated. The thumb was extended, but passive motion could be made. Active movement was possible in the left shoulder-, elbow-, and wrist-joints. The first phalanges of the fingers submitted to passive motion, but the others remained very firmly flexed. The hollow of the hand was so atrophied that the tendons could be distinctly seen. Flexion and extension of the hand were possible, but abduction and adduction could not be performed. The temperature of the affected limb was lower than that of the opposite side. Direct electrical stimulation showed no change in the biceps, triceps, or in either portions of the deltoid; the extensor muscles were also normal in this respect. Direct excitation of the muscles of the ulnar region showed contraction everywhere. Indirect excitation, however, failed to develop contraction; only flexion of the forearm and dorsal flexion of the hand could be produced. Galvanic excitation also failed. Hearing was decidedly impaired, particularly on the left side. The usual symptoms of left facial palsy were observed, decided retinitis and "Stauungs-Papilla." The sensorium was unaffected. The patient complained of headache in the left parietal region. He remained under close observation for some months, showing occasional brain-symptoms, as headache, dizziness, etc., occasionally occurring in severe attacks.

The patient finally died with tremor, clonic spasms, collapse, and unconsciousness. The post-mortem examination failed to show the immediate cause of death, though a gliomatous tumor was found in the right cerebral hemisphere. The chief interest of the case centred in the condition of the nerves of the brachial plexus. The central ends of the divided ulnar and median nerves were adherent by

means of a neuroma which had grown around them. The peripheral ends of the same nerves had grown together with the central stump of the cutaneous medius. The exact condition is illustrated in Israel's paper by means of the accompanying plates, together with a Teutonically minute and laborious description of all the lesions and alterations in the limb.

CHRYSAROBIN.—Chrysarobin, araroba, Bahia or Goa powder, as the material from which chrysophanic acid is made has been variously called, has recently been made the subject of further study by Lewin and Rosenthal (*Virchow's Archiv*, Bd. lxxxv. p. 118). Chrysarobin is derived from a tree growing in Bahia, British India, and the east coast of Asia, belonging to the family of Leguminosæ, and growing to the height of eighty to one hundred feet and over, with a diameter of three to six feet. In the fissures and cavities of this tree, which are numerous, is found most probably the araroba powder, in all likelihood a result of decomposition of the wood. It occurs in the form of a dull yellowish-brown, very finely divided and easily pulverulent mass, without taste or odor. Liebermann and Seidler have shown that the active ingredient of araroba is not chrysophanic acid, but chrysarobin, which is obtained by solution in benzole and repeated recrystallization from cold vinegar, in the form of small, yellow tablets. It is insoluble in water and ammonia, but is dissolved by concentrated sulphuric acid and strong caustic potassa, with a yellow color, and in the latter with green fluorescence. It is also soluble in chloroform vinegar, "petroleum-ether," and quite readily in melted fat and vaseline. Exposure to the air changes chrysarobin to chrysophanic acid by oxidation.

Under the name of Goa powder, this drug was first brought to notice by Fayer in 1874 as a remedy for tinea tonsurans, chloasma, and intertrigo. Balmanno Squire in 1876-7 brought it more prominently into notice as chrysophanic acid, and in particular introduced it as the best local means as yet discovered for the treatment of psoriasis.

The use of chrysarobin has since then become quite general, and Neumann has said that since its introduction psoriasis no longer belongs to the diseases which trouble patients to an extreme degree.

No remedy has been introduced into the therapeutics of skin disease for ten years past which has given such good results.

The present method of its use in psoriasis is as follows. All scales are to be removed from the patches by soap baths, benzole, scraping, etc., and then a ten-per-cent. ointment is rubbed in in a thin layer, by means of a brush, twice daily. Ordinary cases begin to show improvement after three to six applications; but occasionally it may require several weeks to make an impression. The application cannot be made upon the face or genitalia with impunity, or at least without great precaution for fear of arousing irritation. The gradual diminution of infiltration shows itself in a loss of color in the centre of the patch, gradually extending to its periphery, so that in time the patch becomes whiter than the surrounding skin, which indeed is colored a reddish-brown color by the remedy. The scales become thinner and thinner, until finally a single sheet, like a gold-beater's skin, is all that remains before the patch entirely clears off. Occasionally the scales change to a yellowish crust, which is in time cast off, leaving the skin beneath in a nearly healthy condition. Around each white spot marking the seat of a former lesion is the brownish halo above spoken of, which often itches,—a sign that the employment of the remedy must be suspended for a time, or the skin will become irritated.

When chrysarobin does not agree with the skin, either from its excessive use or from some idiosyncrasy of the individual, dermatitis of greater or less intensity sets in, or occasionally a papular eruption or a crop of furuncles breaks out. In the latter portion of their paper, Lewin and Rosenthal give an account of the action of chrysarobin upon the body, which will be abstracted in a future number of the *Times*.

POISONING BY BORACIC ACID.—The increasing employment of boracic acid as a topical application gives interest to the following communication from Dr. Molodenkow, of Moscow (*Cbl. f. Chir.*, No. 39, 1881; from *Wratsch*).

The first case was that of a man of 25, who, after thoracentesis, was treated by washing out the pleural cavity with five-per-cent. boracic-acid water, the operation lasting an hour, and fifteen quarts of the boracic-acid solution having been

employed, a portion of which remained in the pleural cavity. Vomiting, weakness, with increase of pulse and temperature, and later an erythematous eruption upon the face, followed. Within a day or two all these symptoms grew worse, the erythema spread over the body and thighs, mother-of-pearl-like vesicles appeared over the face and neck, vomiting continued, weakness increased, hiccough and dimness of vision; finally, death on the fourth day.

The second case was that of a patient 16 years of age, suffering with an abscess in the region of the hip, which was washed out with five-per-cent. boracic-acid water, a portion remaining in the cavity of the abscess afterwards. Within a quarter of an hour uncontrollable vomiting began, and the patient died of exhaustion on the third day. Boracic acid cannot, therefore, be regarded as an indifferent substance,—at least when introduced into the cavities of wounds.

TWO FATAL CASES OF POISONING BY IODOFORM.—Henry (*Cbl. f. Chir.*; from *Deutsche Med. Wochens.*, 1881, No. 34) gives an account of two cases occurring in the Breslau clinic, where iodoform has been largely and successfully used of late in the treatment of caries. The history of these cases showed well-marked cerebral symptoms, including intermittent drowsiness, finally ending in coma. In connection with these symptoms the patients suffered with paralysis of the sphincters, aphonic disturbance of speech, contracture of the muscles of the neck, and scaphoid abdomen, together with great frequency of pulse from the beginning. The temperature was normal. The acuity of the attack differed greatly in the two cases. In the first case death occurred on the second day, while in the second the patient continued in good condition for nine days during the use of the iodoform (externally); then headache and somnolence occurred for two days, death taking place on the sixteenth day. Fatty degeneration of the heart, with cloudiness of the liver and kidney, were shown post mortem.

RESORCIN IN CHOLERA INFANTUM.—In Breslau ninety-one cases of cholera infantum were treated with resorcin in the dose of one-third to one-half grain in two ounces of infusion of chamomile. The success of this treatment was remarkable. How often the dose was given is not stated.

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EDITORIAL.

A CHILD OF MODERN WANTS AND
MODERN MEANS.

DURING the recent war of the Rebellion, driven by stress of circumstances, our government was at first almost glad to accept the services of any one who came with a medical diploma in his hand. It does not follow from this that all the applicants, or even most of them, were men of inferior attainments or with a low capacity for good and humane work as surgeons; but it is nevertheless incontestable that too many of them were. Still, at first, there was nothing to do but to keep on accepting and regretting at the same time. This was no fault of the doctors. The public was satisfied with the standard of medical education; and the doctors themselves invested in their profession all the public would appreciate. Let the truth be told. Too often men of liberal education and of liberal profession would both vaunt and patronize those whose ignorance and quackery were conspicuously blazoned in every act.

Besides this, the wants of sparsely-populated regions were such that doctors must be found; and this, too, had its full share to do in flooding the land with men to whom another year of study would have been of great service.

But at last we have grown clear beyond either of these unfortunate necessities; and a full, fair recognition of the fact that the country needs as physicians men of the most gentlemanly instincts, of the finest natural abilities, and of the very highest culture, is now apparent.

Three years to make a good mechanic and a year and a half to make a doctor are

arithmetical proportions that modern society has become quite tired of. Even the seven branches which a score of years ago were regarded as filling absolutely full the armory of the doctor came to be first taught more thoroughly, and then later were supplemented by others which were reckoned of prime importance either as preparatory to medicine or as of value in its higher walks.

There are a goodly number of such supplemental branches. The latest step in advance is that of the University of Pennsylvania, where a course "preparatory to medicine" is now in active operation, and, so far as present indications go, promises well,—so well, indeed, that increased facilities will be required inside a twelvemonth. The idea of the course is exactly expressed in the title, *preparatory to medicine*. To work out, however, the largest measure of usefulness, it may be taken in two ways: first, any student having a fair English education may enter and take such branches as it is decided will be of most use to him. Thus, he may divide his time between chemistry, botany, and zoölogy. It would, however, be strongly urged, unless well grounded in Latin and one or more modern languages other than English, that he take these also. *Such a course leads to no degree*, and the student may pursue it one, two, or more years, as he desires. It is plain that it would be a most useful introduction to his life-work. The mere habits of observation formed under such training would be invaluable in after-life.

Besides this, the regular matriculant of the Towne Scientific School in the University may, at the expiration of his second year, when it is assumed that he has by the discipline of study laid a solid foundation of fact and of training, and, besides, earned the right to settle upon his own future career, decide whether he will for the regular course of training substitute that of the preparation for medicine. If he

decide for the latter he ought still to follow the curriculum closely enough to round his general culture into accordance with what we know as a liberal education. He simply takes, instead of branches which are of general importance, those which are of special importance to him as a doctor, and at the expiration of his regular collegiate term receives, if found worthy, the diploma of the University.

It is obvious that, with men of equal capacity and earnestness, those who take the latter course will be the better prepared for a full appreciation of the literature and duties of the profession. It is equally obvious that those who take the former will have a training in advance of that which has been possible hitherto. The very foundation of the course is laid in the idea that the student is in training for original investigation,—that he must exercise his best powers of observation and his most critical judgment at every stage of his study. This alone would be a tremendous vantage-ground in the future struggles of a close competition between young medical men. The general principles of chemistry once gained, how easy is the mastery of medical chemistry! With physics properly comprehended, ophthalmology becomes a rational science, instead of mere routine work. Zoölogy is the solid foundation on which the future surgeon may rear his superstructure of anatomy. When one considers that fully two-thirds of the remedies by which we hope to arrest or cure disease come to us from the vegetable kingdom, and that of these the vast majority are from our own land, the propriety of knowing these when one sees them is so clear that it were a waste of words to discuss the proposition at all. We are assured by those who have the teaching of this new department in charge that, after a full, fair grounding in the means and methods of study, the pupils will be systematically taken over, *in the laboratory*, all the more important practi-

cal relations of the several special branches preparatory to medicine. This implies a slow, orderly course of instruction, with ample time for critical work. In so far as this is well done it will aid in relieving the student of the excessive mental strain which characterizes the three winter sessions in the proper medical course.

A NEW OPERATION FOR EXSECTION OF THE INFERIOR MAXILLARY NERVE IN THE SPHENOMAXILLARY FOSSA.

AT the Hospital of Oral Surgery an operation for this exsection was practised by Prof. Garretson at his clinic, November 19, in a manner which, in the ease and certainty of the performance, places the matter in an entirely new position and converts complexity into simplicity.

After making the required trapway by dissecting the masseter muscle from its attachment to the ramus of the lower jaw, a cylindrical drill half an inch in length and the same in diameter was inserted into the mandril of a powerful surgical engine; and by it in revolution to the extent of five thousand times in a minute, the nerve was quickly laid bare to its place of entrance into the bone at the posterior dental foramen. Next, the opening being enlarged until the pterygoid muscle was fairly exposed to view, the nerve was cut at the site of its inferior exposure, and, being lifted from its bed and held on the stretch, the handle of a scalpel was made to isolate it up to the point of emergence at the base of the skull. It was there excised, a pair of delicate iris scissors being used.

The ease with which this most complex operation is performed after the manner described requires to be seen to be appreciated. The impression produced on the large number of students and medical gen-

tlemen present was marked. It will surely divest the operation of the fear and hesitation always felt by the surgeon undertaking it.

EDITING OF ENGLISH MEDICAL WORKS.

WE recently published a review of the American edition of Holmes's Surgery, which has attracted some attention and has been thought in certain quarters to reflect unnecessarily upon the American editors. It was our wish to express very decided views in regard to the publication of the book, but we did not desire to include the American editors in a wholesale denunciation. The system of publishing English medical works which has grown up in this country is nothing more or less than legalized buccaneering: it is appropriating other people's property by sanction of law, and giving them no return therefor. Its practice by men whose lives are otherwise honorable is a marked instance of the weakness of human nature and of the necessity of law as a trainer of human conscience. Almost always in these cases the editor is the cat's-paw; and it is very curious that medical men—the writer of this in his early days among them—allow themselves so to be used, apparently without perceiving that they are being burned. These editors are underpaid,—usually with a miserable pittance flung to them,—are in most cases men of upright intentions, but are simply without thought following in the footsteps of their predecessors. Is it not time that some one should put this matter in its true light? Is it not right that we medical writers all should understand exactly how we are being used by publishers, and how we are unwittingly at the same time injuring our colleagues across the water and our own higher professional interests in this country? Men will not write medical books unless there is a prospect of success; and how can success be achieved by a book loaded with a

copyright pitted against one stolen from English brain and having therefore only one profit to pay?

We regret very much that this discussion should seem to centre upon the editors of Holmes's Surgery, as they are a body of honorable men who have had very low wages for conscientious work, who have been following simply in the line of old custom, and who, if they had seen the matter in the light we see it, would, we believe, never have been editors of the book. Being ourselves in this matter not without sin, we desire to cast no stone; but the discussion has to turn upon some pivot, and we hope it will now go on and widen until the whole profession appreciates the fact that a good name is not to be connected with such a transaction, and publishers become unable to get foremost men of the profession to prepare English books for the American market unless a fair compensation is paid to the original author.

CORRESPONDENCE.

LONDON LETTER.

IN this communication other matter than pure medical matter, or at least but collaterally related to it, will be considered. Yet let me not be too hasty. There has appeared a new medical periodical,—an event so common and ordinary with you as to excite none other than a local interest. This is designed for the medical student, who requires something more than a given number of dry text-books. There has been in existence some time a *Students' Journal*; but the new bantling is weekly, at the easy price of one penny. Besides solid matter it gives an account of sports and recreations,—as students' foot-ball,—and an account of a theatre in No. 2. Whether this periodical is to develop into a standing guide to medical students, so that they may be instructed how to avoid naughty plays, or not, it is not for me to surmise. It is a respectable paper, promising to live,—as of course it ought to do, when I wrote the first leader for it on "Taking Pains." If it were not for the remembrance of the recent *Medical Examiner*, which survived the period of teething, but sank of marasmus later on, chronic hydrocephalus,

and a complication of diseases, the outcome of malnutrition, I should be very hopeful of it. Well, this new babe seems a lusty, vigorous infant, with a better constitution than the poor *Examiner* manifested. It is launched respectably, and seems to deserve the best wishes of all.

Now to the subject-matter proper of this letter. Food is allied to medicine; and the subject of food is not an altogether inappropriate topic for my letter. Probably you on the western shores of the Atlantic are aware that John Bull has for some time been dependent on foreign countries for a great portion of his food. First he got flour, then he got tinned meats, biscuits, preserved fruits, and ultimately fresh meat itself. We will not enter into the subject of live-stock. Those two wilful men Cobden and Bright made such a disturbance about the tax on bread, and talked so glowingly of the cheap loaf, that the tax on corn was repealed, and foreign breadstuffs began to pour in fast. This was convenient in the year of the potato-famine in Ireland. Then came the cotton-famine, when the looms of Lancashire stood idle because the Northern cruisers prevented the cotton of the Southern States getting to Liverpool; and again the light price of foreign breadstuffs was a boon to the Lancashire folk, "clemming," as they prefer to call hungering. However, John Bull did not mind this dependence on foreign supplies so long as his agriculturists at home were thriving. Rents were up, landlords flourished, farmers were sleek, and the field-laborer took to agitating for more wages, and mostly got them. But all this prosperity was suddenly checked. A wicked American took the weather in hand, and predicted us a lot of bad weather, most of which came punctually to time, just like a bill. The Conservative government forgot to look after the farmers' interests; and bad harvests followed. In 1875 farms could hardly be found for the numerous applicants; yet 1881, on its arrival, found wide tracts of fertile land without a tenant upon them. Even in rich agricultural districts, where farmers were all well to do and "had money put by," crash came after crash,—first one, then another,—till many a country doctor had to pull himself together, and the wholesale drug firms could only get a moiety of their accounts paid, and not always even that, it is to be feared. Other—textile—productions, too, had overstocked the markets. The United States of America, from buyers, had become manufacturers; India was putting up cotton-mills of her own; John Bull's articles were falling off in quality; indeed, the cheery old chap has been having a bad time of it. So imported foods were becoming more popular: even domestics found them edible; and after the inmates of one workhouse (not the officials, but the paupers) had struck against tinned meats, but found at last that even they were

preferable to starvation, the verdict was pronounced that tinned foods were to be accepted as part of the things that must be in this imperfect world.

Last year a "food show" was held in the great agricultural hall at Islington. This was perhaps rather cruel to the English agriculturist, and wounded his feelings somewhat; but when people are not prospering their feelings ought normally to become correspondingly insensitive. Only prosperous people should possess feelings which might be wounded. Again, this year, Mr. John Black tried his hand with another, which has been more successful still. Four judges were necessary: so Dr. Danford Thomas, the coroner, and Dr. Bartlett and Mr. Wigner,—both analytical chemists,—and myself were asked to take up the judicial duties, which we did. We set to work manfully to get the thing done honestly and squarely to the best of our ability, myself feeling all the more the demand upon my integrity for the remarks I had penned about the decisions at the International Medical and Sanitary Exhibition, when the United States exhibits were treated so scurvily. The chemists undertook the analysis of all articles: so into that it is needless here to enter. Feeling the desirability of getting through the non-alcoholic drinks, we started with them; and a host there were. The proportions of iron in some beverages had been too large; but now they were reduced. Some did not contain iron at all, but the red cinchona bark was used instead. Why the "red" bark should be preferred to any other for the needs of the inebriant it is not easy to see; but it has got a reputation for that purpose, that is certain. Effervescing beverages, palatable and middling, there were. Then the lime fruit was prepared in a variety of ways, till there was no scarcity of antiscorbutics. Vegetable-flavored essences of many kinds were also exhibited. Pure aerated waters were pressed upon our notice, not, however, absolutely free from other elements than hydrogen and oxygen, plus a little carbonic acid. Then there was milk prepared as koumiss, and peptonized milk (home products), while a Swiss firm exhibited some more or less condensed milk in bottles, which were fairly drinkable. But the secret of preserved milk and cream has not been fully revealed yet; at least, so it has appeared to me. Then there was a lager beer which would not have attracted much custom in Vienna, but which was fair after its journeyings. A Copenhagen lager stall was put up, but not in time to be available for award. So its qualities are unknown,—at least to the judges. These last were not exactly temperance drinks in the strict sense of being innocent of alcohol, but they were calculated to favor temperance. These beers were partaken of in moderation, that is certain. "Well begun is half done:" so, having made a fair start, we lunched to-

gether with the representatives of the press; and some of the exhibits, notably a pork-pie of goodly dimensions and excellent flavor, formed a part of the viands. Speeches followed, of course, and one judge roused an indignant protest from myself for the disrespectful manner in which he spoke of starch as a constituent of our food. I reminded them that it was starch as glycogen, or animal starch, that was the food of man *par excellence*, stored up in his liver and given off as required for the body's requirements. After the exhaustion of hearing others speak, we were glad to adjourn our judicial labors till next day. Then the judges' room was pretty crowded, especially with fluids. Is it that fluids do not require mastication, and so present little difficulty in swallowing, which causes them to be favorite subjects for repeated examination? Zoedone was a prominent figure, surrounded by many imitators. Indeed, suspicions are being aroused that the teetotaller is a very thirsty fellow, and fond of a palatable drink too, it appears. Since it has been definitely settled that ginger-pop contains alcohol,—as it must, since the sugar is broken up by the yeast into CO_2 and alcohol,—since this discovery, then, has been made, the teetotaller has gone earnestly in quest of some new effervescing beverage, and the chemist has set to equally earnestly to provide him with a variety. So there were many beverages to be tested otherwise than analytically; and in the early hours of the day these guileless fluids were in demand. But let the sneerer suspend his pharisaical judgment: it is not asserted that our personal experience was confined to these temperance drinks, or that other fluids were entirely ignored. The arcana of the judges' room are not to be rashly revealed; but there was a fluid hight "whisky curaçoa" which seemed deserving of notice; nor is it suggested that its claims to consideration were ignored, since repeated samples were requisite to a judicial verdict. Then the wines of Australia were worthy of careful consideration, and upheld creditably the reputation they have won elsewhere. Some Hermitage grown from Burgundian vines seemed to possess a certain fascination for myself when my labors were drawing to a close and some alcoholic beverage seemed indicated. Nor was one observation sufficient for the end sought. Each day a little was tasted, in order that the verdict might be a deliberate one; and a favorable verdict it was. Some Italian wines of champagne character seemed very good indeed at the price. Then there were various exhibits of tea, coffee, and cocoa; and they were tested by tasting too. Messrs. Phillips had a regular kettle-drum, at which the judges presided. Chinese teas,—some curiously rolled into horse-bean-like masses, and said to be the drink of mandarins only; teas from Assam, Indian teas, and a block of tea like a piece of an old plank,—a specimen

of a tea in favor in some Asiatic area. Cocoa was exhibited in many forms,—nibs, powder, chocolate, cocoa, hot and palatable. It is not for want of variety or enterprise in the manufacturers if cocoa does not become a popular beverage. Then the specimens of beef-tea and soups to be tasted,—some fairly good, others indifferent. One, to me, very interesting exhibit was a little tin holding about a quart, to look at. Within the tin was a non-conductor, and within the pot, containing the beef in small pieces and the water, was placed, and the lid screwed on. The whole was then placed in a pan, and this pan was heated. What the inventor claimed was this: however heated the pan might become, the contents of the internal pot were safe from overheating, in consequence of the non-conductor, and so the beef-tea could not be spoiled by the ignorance or stupidity of the cook. The exhibitor was a funny little mannikin, who lunched upon his own beef-tea with evident gusto. He showed us his children who were fed upon it, and dilated with enthusiasm upon the good effects of the beef-tea, which had cured (?) his wife when three doctors had given her up with heart disease. (This is another illustration of what I often speak or write about,—viz., that the prognosis in many cases of heart-trouble is unduly grave and the seriousness with which they are regarded not quite warranted by the facts of the case.) We tasted it, and right down good, wholesome beef-tea it was too. That was the unanimous verdict of the judges, aided by their spouses, who also bore a hand at the tea-tasting. Indeed, that part of my duty was delegated to a much more competent authority on the matter than I profess to be. The beef-teas were tested in turn, and the soups too. The exhibitors have no ground of complaint on that head, either the successful or the unsuccessful. But, if I personally did not take an active part in the tea-tasting, my tasting experiences in other matters were by no means limited. Possessed of a faultless—indeed, almost too perfect—digestive apparatus, the duty devolved upon me of testing various comestible exhibits. The claims of rival pork-pie manufacturers could only be settled by actual eating of some of their preparations: so sections were made and the examination proceeded with. Then sausage-rolls. At last that division was completed. Then there were cheeses of various kinds,—Gorgonzola, Gruyère, Roquefort, and the little green Swiss cheeses made with herbs and grated on bread-and-butter; and, oddest of all, a cheese from Zululand, made by one of King Cetewayo's wives, or queens, and enclosed in an ox's bladder or some pouch-like appendage regionally near to it. This last was not tested, but only looked at with reverent curiosity and because the outcome of queenly labor. Butter, too, was exhibited, some from Milan, some made on the premises, without any

handling, by the Aylesbury Dairy Company. A most modern churn, involving a minimum of labor, made the butter; then it was placed on a circular board and rolled to squeeze the water out of it. Nice, clean, sweet butter it was, too; for when trying the diabetic breads and biscuits it was found impossible to get on with the testing without some addition; and some of this fresh butter helped them down capitally.

Now, this is an authoritative if informal expression of opinion from a judge at a food show: diabetic bread and biscuits, free from starch or sugar, may be of the highest utility in certain and sundry cases of disturbance in the glycogenetic functions of the liver, but from a gustatory point of view there is absolutely nothing to be said for them. The first diabetic biscuit I ever ate was eaten from strict curiosity; and the verdict elicited by the trial was, a diabetic must either be desperately afraid of dying, or have some monstrously strong reason for living, if he can eat that. Now, without wishing to assert that the articles on exhibit were all as repulsive as that biscuit was, it is certain they are not attractive to the palate, the almond biscuits being far the least objectionable. *Per contra*, there were some Scotch oatmeal biscuits by no means hard to swallow, and some biscuits from a Philadelphia firm (Walter G. Wilson) which were admirable in every way; also vanilla cream, butter Scotch, toast, and many more which excited much commendation.

Of preserved meats, tinned meats, fish, fruits, and vegetables the exhibits were good. High above all towered the arch whose pillars were built of tins of preserved foods, of Messrs. Thurber & Co., of New York, whose most recent rolled tongues in tins were all that could be wished. Indeed, a careful survey of this exhibit tells us to what proportions the preserved-food business has already grown. At a little distance was an unpretending stall of small proportions, where Brand exhibited his preparations for the invalid, many of unsurpassable excellence. A little away was a stall of herrings from Yarmouth, exhibiting the various methods of curing this cheap but toothsome fish, perhaps a little too fragrant at times. Anchovies, prepared in oil, in pickle, and otherwise, were exhibited at another stall, along with other nice things, including mignonette pepper, an agreeable condiment certainly. Then beyond these foods ready for table were a number of exhibits of flour, and of baking-powders to raise the said flour when made into dough. In one instance the raising-powder and flour were mixed ready for use, requiring only the admixture of water. These baking-powders have been found very useful in times of war: of that there exists no question. But how far they are likely to take the place of German yeast in ordinary households it is not yet very

certain to say. They were tested by weighing out a given quantity of the yeast, or baking-powder, with a certain quantity of flour, and our own baker working the dough, then marking the piece of dough and letting the exhibitors bake it into a loaf, and then comparing the respective loaves. These powders consist of some chemicals which disengage CO₂ when moistened in the dough; and the resultant bread, with its large air-vesicles and fibrous fracture, resembled closely the bread which once was fashionable, made by mixing muriatic acid with carbonate of soda in making the dough. So far as could be seen, this bread has no advantage over that raised by yeast, except the convenience of preparation. We were not prepared to test the samples by eating, for, though a little intestinal disturbance was all the ill effect produced by previous experiences, I did not feel equal to trying these new-made loaves raised by chemicals. The flours varied in quality, some containing notable quantities of alum. Why exhibitors put themselves in a questionable position by sending adulterated articles to be judged at a show it is impossible to say. If they adulterate their articles, surely it is not prudent to send them where detection is inevitable. Pure articles ought to be sent to an exhibition, whatever is sold ordinarily. But even that dodge is not quite safe from detection, as in cases where suspicion existed samples were bought at shops far away and compared with their twin brothers in the exhibition.

Such, then, is the record of a form of exhibition which must become more and more common as the use of preserved foods extends, and with that the various preparations of such foods.

By the awards at these exhibitions are the purchasers of tinned and other preserved foods to be guided in their choice, and to some extent protected against deception as to the quality of the goods they select,—the man laying in a store of food for use in an outlying sheep-farm or ranch; the miner, far away from much choice of provisions, perhaps too ignorant to select for himself. By the prizes given to an exhibitor, in after-years some others will be encouraged to show against him, in the hope of excelling him; and, more than all, by the justice and fairness manifested by the adjudicators will all exhibitors and purchasers, as well as manufacturers, in the future be stimulated to do their best,—the one to sell a good article, and the other to show some rational discrimination in their selection. And as Great Britain fails more and more to be a self-feeding country, as seems certain to be the case, the supplies from far-distant countries will require supervision, with commendation for what is approved, and the silent negative condemnation of no award for what is unsatisfactory.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the College of Physicians, Philadelphia, October 26, 1881, Dr. Albert H. Smith, President of the Society, in the chair, at which Dr. J. T. Eskridge read a paper on the "Pre-Physical Sign Stage of Phthisis Pulmonalis," and received the customary vote of thanks.

DISCUSSION.

Dr. Carl Seiler requested the lecturer to define what he meant by the term "predisposition to phthisis," which he had used several times in his paper, for, unless the position he takes upon this point is more clearly defined, his so-called premonitory symptoms do not amount to much. From the lecturer's remarks it would seem as if all his premonitory symptoms only pointed to a lowering of the vitality. The increase of pulse and temperature, and the hoarseness, however, are not pre-physical signs, but actual symptoms of the disease.

He also inquired what is meant by a bad family history. Does he mean the surroundings of the family, or existence of actual disease, and, if so, what disease? Does he believe phthisis to be incurable? Unless he defined his position upon these points, not much could be made out of so-called premonitory symptoms. He also said nothing about the difference between miliary tuberculosis and ordinary phthisis, or between primary tubercle and inflammation of the lung followed by tuberculosis, where tubercles were not the cause of the inflammation.

Dr. Jas. C. Wilson said that the topic was not only important but also a difficult one to discuss. The lecturer had rather enhanced the difficulties by his mode of treating the subject, especially by not distinguishing clearly the varieties of phthisis. Personally, he had seen many if not all of the symptoms that the lecturer had set down as premonitory signs of phthisis appearing in patients who did not afterwards develop phthisis. On the other hand, he had seen rapid well-marked pulmonary phthisis in patients who, up to the time of the occurrence of the acute lung-trouble, were apparently in perfect health. He could not agree with the lecturer in the statement concerning the non-existence of one symptom to which attention had been especially called by the old writers,—i. e., a patient liable to the development of phthisis usually has a dislike for fatty articles of diet. Dr. Wilson had for a number of years made a habit of inquiring into this peculiarity, and had found that a large proportion of consumptives answered the query in the affirmative: patients suffering from phthisis who had been in the

habit of eating habitually a large amount of fat at the table were relatively few in number. He believed that in this instance the older writers were in the right.

Dr. F. Woodbury said, if a person be sick with tuberculosis, he must be already tuberculous; and, since tubercle is an entity, an actual deposit must alter the physical conditions of the organ in which the deposit takes place, just in proportion with the amount deposited. If our methods of physical examination were sufficiently exact and searching, the most minute physical changes might be recognized; if they are not, if we fail to recognize changed physical conditions in the lung, it is from want of refinement in our means of diagnosis. It is not to be denied, also, that in the post-mortem room tubercular deposits are found in various organs of the body the existence of which was unsuspected during life. In these instances, while the ordinary symptoms of phthisis were absent during life, the physical signs doubtless could have been detected. Tubercles, moreover, may often be demonstrated as existing in the choroid and in the larynx before they are ascertained to exist in the lungs; they have also been found in the peritoneum of a woman during ovariectomy, although phthisis had not been suspected. Certainly there is no room here for a hypothetical pre-physical sign stage of consumption.

It is hardly supposable that there should be a pre-physical sign stage to inflammatory lung disorders; while, on the other hand, if the lecturer meant pulmonary tuberculosis by the term "phthisis" he should at least have excepted the acute miliary variety, which gives a clinical history so different from ordinary phthisis as to remove it entirely from the group of local pulmonary diseases and to warrant its consideration among the acute constitutional affections, like the specific fevers. In a case under the speaker's care at the German Hospital, a male nurse—who, previously in good health, though overworked, had a history of dissipation and syphilis several years before—was seized with severe lumbago. After remaining in bed for a short time, it was noticed that he had afternoon fever, and the thermometer indicated 103° to 105° each afternoon and 99° to 100° in the morning: in other words, he had a continued fever. He had absolutely no cough nor other pulmonary symptoms, nor was there delirium nor diarrhoea. On account of the fever, the case was pronounced by several physicians to be one of typhoid fever. Upon deep percussion, the speaker found a slight increase in pitch, without marked dullness, especially anteriorly, over the right lung; the breathing was not harsh, expiration slightly prolonged; this was so slight at first as to forbid a positive statement of the fact, but from the hectic, and absence of diarrhoea, rose-spots, and brain-symptoms, the case was regarded as probably

one of acute tuberculosis. The patient died about nine weeks afterwards. At the autopsy the diagnosis was verified; the right lung and upper part of the left lung were solid with miliary tubercles; a piece of the pulmonary tissue sunk in water.

The symptoms relied upon by the lecturer to establish a special first stage of pulmonary tuberculosis merely indicated a failure of nutrition, such as might occur in many other disorders. It is usually acknowledged that such a state may favor the development of tubercle without being directly a part of the disease. Imperfect assimilation of food always produces wasting of the tissues,—as in stricture of the œsophagus or gastric cancer. Pulmonary disease is likewise accompanied by a defective primary and secondary assimilation. In some cases of phthisis the constitutional symptoms (the anæmia, wasting, and fever) are very much out of proportion to the local disease in the chest; in others, the lung-structure suffers relatively to a much greater degree, the system at large not being much disturbed; or, indeed, the disease may be for a time quiescent and the patient actually gain in flesh.

Since the word "phthisis" only indicates one feature of chronic pulmonary disease, and one by no means peculiar to it, and since much confusion of the subject is caused by applying the title at one time to a single disease and at another to a group of diseases, the speaker urged that the term "phthisis pulmonalis" be either restricted to chronic pulmonary tuberculosis or be discarded entirely from scientific discussion.

Dr. Eskridge, in closing the discussion, said that he had not brought the subject before the Society expecting to indicate definite means whereby consumption may be recognized always before its presence can be demonstrated by physical signs, and it was stated in the paper that a diagnosis made prior to the physical sign stage was, at best, often only approximate. He could not agree with Dr. Seiler that the symptoms were too indefinite to have any practical value. Was it not by the vague and ill-defined premonitory symptoms that the skilled physician learns to recognize typhoid fever before the characteristic image of the disease is portrayed by the symptoms? The care that is important in the early diagnosis of this fever or other allied maladies is doubly important in the early detection of phthisis of the lungs, seeing that the treatment, after this stage is passed, avails but little. These premonitory symptoms connected with disorder of the system pointing towards pulmonary involvement constitute a deviation from a state of health, and he would so define the term "premonitory symptoms of phthisis," the early recognition of which he considered of great importance. During the discussion Dr. Woodbury had said that, no matter what value the early symptoms that

precede some cases of chronic phthisis might have, it was certain they could have no practical value in the diagnosis of miliary tuberculosis. Dr. Eskridge had never had the opportunity of watching such a case several weeks prior to the outbreak of the disease, but he could not see why such a form of the disease should not be preceded by distinct symptoms, which would be manifest before physical signs were present. Dr. Ringer had observed a considerable rise in the temperature early in the history of similar cases.

As regards the nausea or loathing produced by eating a small quantity of fat with the lean meat of the food, he had not discarded it from the roll of symptoms, but he could not agree with Dr. Wilson in laying so much stress upon so variable a symptom. He never had treated an anæmic dysmenorrhœic female who had not a dislike for fatty articles of diet. It is a common symptom in ordinary anæmia, but according to his experience it is absent as often as present during the pre-physical sign stage of phthisis. He thought it more commonly preceded the development of acute than of chronic consumption.

He agreed with Dr. O'Hara in that a quick irritable pulse is found in many diseases other than of a tuberculous nature. It is its association with many other symptoms of the disease that gives it importance, especially when it is modified by changes of weather. In a person suffering with a cough, a vibratory and more or less accelerated pulse, which becomes more marked in all its abnormalities during damp weather, should make us apprehensive of some pulmonary trouble, unless such a symptom can be accounted for by disorder in other portions of the body.

It had been said that when a patient is sick with tubercular disease he is already tuberculous: nothing could be truer, and the fact was plainly stated in the paper.

With reference to the use of the spirometer to test the vital capacity of the chest, he could not speak from much experience, but this he knew, that a person must first learn to blow through the instrument, and that by practice one could greatly increase his vital capacity, as shown by the register, without preventing the development of phthisis. The man, an athlete, a native-born American, who performed in London the extraordinary feat of exhaling over four hundred cubic inches of air, died of consumption of the lungs a few years after making an exhibition of his unusual vital capacity.

This paper was not hastily gotten up for the occasion, but was gleaned from the clinical histories of hundreds of cases of phthisis which he had carefully watched both in private and charity practice. At the Catharine Street Dispensary every phthisical person, and every one presenting the least symptoms of the disease, is weighed, and the temperature, pulse, and respiration, with the other

symptoms, are recorded by himself before treatment is begun. Records of cases during the early stage are made twice weekly, later bimonthly. He believed by comparing the evidence thus obtained from the clinical history a diagnosis might be made and proper treatment instituted early in the disease.

SOCIETY FOR MEDICAL IMPROVEMENT, BOSTON.

A CASE OF PYÆMIA OF OBSCURE ORIGIN.

Reported by DR. FRANCIS MINOT.

November 15, 1881.

THE patient was a married lady, aged 47 years and 9 months, who had four children. Her temperament was very nervous; she formerly was hysterical: was intellectual and cultured. From childhood she had no especial constitutional disease. Her periods were always regular. During summer preceding her death and while at the sea-shore she suffered from a succession of boils, no other member of the family being ill. After her return to Boston she spent two nights in Newport in a house which was isolated and apparently in good condition, there having been no case of illness therein before or following the lady's visit. Soon after her second return to Boston she complained of pain of wandering nature and sleeplessness. At Dr. Minot's first visit he found her feverish, tongue heavily coated. After a few days the first and second joints of little finger of right hand became swelled and painful, the patient being somewhat hysterical. There was also pain in the calf of left leg. During the next few days she became very despondent and did not wish to live. On the sixteenth day a swelling appeared in the little toe of the right foot, plantar surface. It was afterwards incised, and discharged healthy pus. Then followed pain and swelling of the abdomen, but there were no signs of typhoid,—merely flatulence. Now occurred a swelling and hardness of the left calf, with a good deal of pain, followed soon after by a small, tender swelling in each axilla. Patient's mind began to wander. By the twenty-seventh day she was "quite out of her head." On the twenty-eighth day an abscess burst in the right axilla. Another was forming in the left. On the thirtieth day there was complete dementia, accompanied with sobbing, crying out, etc., and writhing movements of trunk and limbs. Discharges from rectum and bladder became involuntary, and the patient resisted all nourishment. A regular and progressive increase of the malady now became very manifest. Pulse 130, respiration 60, and gradually increased until the day of death. Patient was now fed by the rectum. There were abrasions on the heels and ankles from incessant movement.

On the forty-first day an abscess burst in the left axilla. Breasts hard and painful. Seventieth day, râles heard over lower back, but no dulness, nor bronchial respiration, nor cough. The left calf was still swelled, hard and tender, but not red; did not fluctuate. Pigmentary spots appeared on the legs, abdomen, etc. (patient was a brunette). There was desquamation of the feet and legs. A comatose condition came on, and death followed on the seventy-fifth day. There was no chill nor paralysis at any time.

On the eighteenth day the *urine* showed a sp. gr. of 1012; acid; urea much diminished; uric acid increased; phosphates and indican diminished; much free renal epithelium. On the twenty-first day urine showed no change. Ten days before death it contained much pus and a few granular casts.

There was great difficulty in obtaining the *temperature*. Generally it was only moderately high (102.5° F.) until the thirtieth day, when it reached 103° F., the abscesses being then discovered in the axillæ. Subsequently remained below 102° F. until sixty-sixth day, after which it rose daily, increasing at evening. The day before death it reached 106° F. At first the *pulse* was 108–116. On the twenty-ninth day it rose to 120, in keeping with the temperature. From sixty-first to seventy-fifth day it rose to 132, and finally to 144. The *respiration* varied, as the case went on, from 41 to 62 between the twenty-third and sixty-first days; subsequently reached 70, and sometimes 86, falling gradually on the last day into the thirties.

Autopsy, by Dr. E. G. Cutler, twenty-three hours after death.

Brain.—Some of the convolutions atrophied, and sub-arachnoid fluid correspondingly increased; otherwise, skull, brain, meninges, and cerebral vessels normal.

Heart.—Recent and slight fatty change in papillary muscles; otherwise normal.

Unimportant fatty degeneration in aorta near valves.

Lungs.—The left slightly œdematous in portion of upper lobe. In lower portion, in front, a wedge-shaped embolic infarction with softened centre. Corresponding pleura thickened and covered with false membrane. In lower lobe, behind, localized and recent lobular pneumonia. Bronchi contained a frothy secretion. Right lung also showed localized pneumonic lobules. No embolic infarctions, but the lung markedly œdematous.

Spleen pulpy, Malpighian bodies large and hyperplastic, as also splenic pulp. No embolic infarction.

Liver engorged with blood. The acini moderately distinct and rather large. Microscope revealed granular condition of hepatic cells and some icteric discoloration.

Kidneys contained old embolic infarctions at centre, spots being very small and circumscribed. Many tubules contained casts.

Supra-renal bodies normal.

Stomach and intestines normal.

Mammae.—In the left, small, circumscribed abscess. In the right, abscess containing about three ounces of creamy pus.

The calf of left leg showed nothing to account for its symptoms during life.

Dr. Minot explained that though he called the case one of pyæmia it differed in certain respects from typical examples of that disease, notably in the absence of chill and of pus in the principal internal organs, also in the prolonged course of the illness. But the progressive depression of patient and her nervous and mental condition, without adequate inflammatory symptoms and lesions, made it possible that her blood was in an abnormal state, which the pus beneath the integuments and in the breasts, and the embolic infarctions in the lungs and kidneys, would indicate as one of purulent infection. Treatment consisted in forced nourishment and stimulants, quinine, potassium bromide, and morphia, the latter injected hypodermically.

In reply to a question from Dr. H. I. Bowditch, it appeared that no examination of the blood had been made. Dr. Bowditch doubted the propriety of calling this disease pyæmia unless there were evidence of pus in the blood.

Dr. Goss referred to a somewhat similar case reported by Dr. Cook before the Massachusetts Medical Society.

Dr. E. G. Cutler stated that in Dr. Cook's case the autopsy revealed no sign of ulcerative endocarditis, which evidence was particularly sought, and added that similar cases had been reported in Germany, one observer having met with six. These cases were included in a distinct class in a report on pyæmia made one year ago to the Pathological Society of London.

Dr. R. H. Fitz said that pyæmia suggested metastatic abscess, but there was nothing of that nature in this case. Thought that the case might primarily have been one of rheumatoid arthritis. The infection, perhaps, was introduced through the abscess near the toe. Cases of osteo-myelitis and periostitis have recently suggested that infective matter might be carried into the body without any apparent external injury. That the respiratory and intestinal tracts might serve as a means of absorption is a supposition which there is some reason to believe. Unnecessary to look for a common local origin of the abscesses in this case. The condition of the lungs indicates a probable embolic affection, but that the mammary abscesses had a like origin is not so probable. Positive evidence of a source of arterial embolism is lacking, and it seems improbable that emboli of venous origin large enough to create such disturbance could have passed through the capillary plexus of the lungs. The abscesses in the axillæ are to be attributed to the suppuration in the breasts, through the medium of the lymphatics, and

did not require emboli as their cause. The case is rare in many particulars, and, if one of pyæmia, cannot be exclusively classified under any one of the usual subdivisions.

Dr. David W. Cheever had seen cases in children supposed to be pyæmia but not so proved by autopsy,—cases in which there was no open wound, but in which there had been fractures and bruises. Several were cited. In these instances patients died after some weeks with symptoms of pyæmia, but no cause of infection was discovered. He supposed it possible that some change might occur from injury to the veins following the blow, with subsequent formation of thrombi and their detachment.

PHILADELPHIA ACADEMY OF SURGERY.

STATED MEETING OF NOVEMBER 7, 1881.

DR. S. D. GROSS, President, in the Chair.

ANEURISM OF THE FEMORAL ARTERY CURED BY PRESSURE.

DR. S. W. GROSS exhibited a case, which he said was under the treatment of Dr. S. D. Gross, the President, with the following history.

About a year ago, a colored hod-carrier, aged 27 years, began to suffer from a constant dull, aching pain in the left knee, which he attributed to rheumatism, and which was increased by hard work. Four months prior to his admission into the Jefferson Medical College Hospital he noticed a beating just above the middle of the thigh, and he found at this point a rather soft pulsating swelling, about the size of a common marble. On admission, there was an aneurism of the superficial femoral artery, at the apex of Scarpa's space, as large as the fist, and the pain was still present in the knee. There was no history of syphilis, but he fell from a ladder and bruised the corresponding leg a few months previous to the appearance of the tumor.

On the 7th of October pressure was maintained for three hours upon the common femoral artery by means of a pestle, when it was discontinued on account of the severe pain which it produced. On the 9th of October the same measure was employed for five hours, but without any benefit. Four days subsequently two five-pound bags of small shot and a leaden weight of ten pounds were applied to the artery and the circulation completely controlled. The constant movements of the abdominal muscles in respiration and the restlessness of the patient rendered it necessary to hold the weights in place and at times to make slight pressure with the hand to overcome the pulsation. At the expiration of an hour and a half, with a view to relieve suffering, one-third of a grain of morphia was thrown under the skin, and the dose was repeated in two hours. At the end of another

thirty minutes; or of four hours from the beginning of the treatment, all pulsation had ceased in the tumor, which had become hard and firm; but the compression was maintained for five hours longer as a matter of precaution. After the contents of the sac had consolidated there was but little suffering, and the patient slept most of the time. At the present date the tumor is diminished one-fourth.

TRAUMATIC ANEURISM OF THE POSTERIOR TIBIAL ARTERY.

Dr. John H. Packard read the history of this case. Joseph D., æt. 11 years, a sturdy and well-conditioned boy, was admitted into the Episcopal Hospital October 8, 1881, with the following history.

Two weeks previous he had received a blow on the inner side of the left ankle from a bit of iron thrown by a playmate. The part "swelled a good deal," but the hurt was not thought much of until the day before his admission, when, in his mother's words, "the ankle burst and he lost a cupful of blood." Dr. Packard's attention was not called to the case until four days after the admission, when he found a small pulsating tumor just back of the inner malleolus. The next day he laid the tumor open and applied two silk ligatures, one above and the other below. Three days afterwards the bandage became suddenly saturated with blood, and the boy fainted. A compress was firmly applied, and Dr. Packard was summoned. Enlarging the wound somewhat, he found the upper ligature loose, apparently from the cutting through of some areolar tissue included along with the artery. A second ligature was applied, which held until the 18th,—somewhat over forty-eight hours,—when bleeding again occurred in the evening. He then exposed the artery a little higher up, and tied it again at a point about a quarter of an inch above the one previously chosen. After this there was no further trouble; the wound did well, and on the 23d—ten days after the first ligation and five days after the third—both ligatures were found lying loose. Healing progressed very rapidly, and the boy is ready for discharge.

HEMORRHAGE FROM A WOUND OF THE FACIAL ARTERY IN WHICH LIGATION WAS PERFORMED.

Dr. Packard related the following history.

B. F. Z., æt. 25 years, was brought to the Episcopal Hospital October 27, blanched and much prostrated by bleeding from a wound in the left cheek, about three-quarters of an inch from the angle of the mouth. Another wound about one and a half inches long, just over the edge of the lower jaw, seemed to be at right angles with the facial artery, and had been closed by means of a large pin and a figure-of-eight suture. The man stated

that the wounds had been inflicted with a penknife, about ten days previous, and that two severe hemorrhages had occurred, one on the eighth day and the other on the evening before his admission. Ether was at once administered, the clots turned out of the upper wound, enlarged for the purpose, and a silk ligature applied to each end of the divided artery. The edges of the skin were then brought together by means of hare-lip sutures, and a wet dressing applied containing a small amount of carbolic acid. Healing took place rapidly, the ligatures coming away on the seventh day.

ARTERIAL HEMORRHAGE IN A CASE OF EXTENSIVE BURN; LIGATION OF THE BRACHIAL ARTERY.

Dr. Packard also related the case of Hilda A., æt. 18, admitted into the hospital during the service of his colleague, Dr. Hunter, September 7, 1881, having sustained, two weeks previously, severe burns from trying to hasten the kindling of a fire by means of coal-oil. Her body and both arms were terribly injured, and when he came on duty, October 1, the process of granulation was going on slowly, while from the irritability of the stomach there was reason to fear serious involvement of that organ or of the duodenum. This, however, was overcome after a few days, and her condition was greatly improved. On the 4th of November, at his daily visit, the resident surgeon, Dr. Robins, informed him that arterial hemorrhage had occurred from the left arm, and had been controlled by a compress over the brachial artery. On removing this compress (the patient being etherized) several jets of arterial blood spurted from vessels opening on the granulating surface at the inner part of the arm. He immediately, with his fingers, broke away the tissues at the inner side of the biceps, so as to expose the brachial artery at the usual point of ligation, when he applied a silk thread. No further bleeding occurred, and the case has progressed since as if no such alarming incident had threatened to interfere with recovery.

Dr. Wm. Hunt recollected a number of cases of spontaneous aneurism in negroes, and inquired whether the disease was more frequent in the black than in the white race. He had recently seen a case of traumatic aneurism of the facial artery, to which Dr. Levis had also been called in haste, which had formed in the course of one day. Dr. Levis and he arrived at the house at the same time. The whole mass was dissected out and the bleeding vessels tied.

Dr. J. M. Barton spoke of once seeing an aneurism which so resembled an abscess in the cervical region that it had nearly been laid open by the gentleman in attendance. He was deterred, however, by noticing the pulsation. The patient died from rupture of the sac, and the autopsy showed evidence of

syphilis. The aneurism was of the carotid artery.

FRACTURE OF THE PATELLA TREATED BY HOOKS.

Dr. T. G. Morton exhibited a patient who had been under treatment for fracture of right patella. There was used lead-water and laudanum for a week, when Dr. Morton's hinged modification of Malgaigne's hooks was applied. The ordinary hooks would not have obtained accurate apposition, since it was necessary to have the upper pair of hooks widely separated, while the lower ones were close together. No irritation followed. It is possible that bony union is favored by the fact that circulation is not interfered with when the hooks are applied, as when tight bandages are adjusted. The slight irritation due to the insertion of the points may increase the tendency to throwing out of callus for the bond of union. In this case hooks had remained in position fourteen days.

Dr. Packard said he was probably the first surgeon in Philadelphia to apply Malgaigne's hooks.* The patient, after having what was thought to be bony union, fell and refractured the bone. There is no danger, as has been supposed by some, of penetrating the joint. He himself now usually employs the method of Sanborn, which consists in loops of adhesive plaster that bring the fragments together by twisting.

Dr. Nancrede mentioned a case where there was no separation, though crepitus was present. He could just catch his finger-nail between the edges of fragments. Could such a fracture, without laceration of the tendon and fascia, be produced by muscular action?

Dr. Hunt had once treated a patient who had fracture of both bones without any separation. He needed no apparatus, and obtained a good cure.

Dr. Willard recently saw a case, undoubtedly due to muscular contraction, and no separation existed.

The President spoke of the recent successes in wiring old fractures where non-union had occurred, and also referred to the method of passing wire through the ligament of the patella and quadriceps tendon in order to bring parts together without interfering with the joint.

Dr. Morton called attention to two cases he had seen. In one the tendon was ruptured above the patella; in the other, below it. No wiring was done. One patient is known to have a good limb for walking, but ascending steps is somewhat difficult.

Dr. Willard had had a case where the ligament of the patella was torn close to the tibia, but he had hesitated about using wire.

Dr. Packard thought it would be difficult to get a good hold for wiring so close to the

bone, and feared trouble might arise from inflammation of the bursa beneath the patellar ligament. He had seen recurring bursitis in this region following injury of the part. Sutures might be better employed in rupture of the quadriceps above the bone.

SUPERNUMERARY THUMBS.

Dr. Nancrede exhibited two supernumerary thumbs removed from two children who had double thumbs on the left hand. The additional digits sprang from the head of the metacarpal bones and were well formed. There was no hereditary predisposition. A child born between these two presented no malformation.

Dr. Morton recently saw an Italian infant without ears. There were little nodules on each side of the head and an indistinctly-felt depression under the skin, as though a meatus might exist there.

URINARY CALCULI.

Dr. J. H. Brinton reported the case of a man whom he had sounded three or four times, about eighteen months ago, and failed to find stone, though the rational symptoms were present. Last spring, however, he found stone, and employed Bigelow's rapid lithotripsy method, by which a large amount of fragmentary matter was removed. He sent the patient home because the weather was hot, but on his return this fall removed over fifty calculi by lateral lithotomy. He stated that he believed Dr. Agnew had once removed about two hundred calculi. The patient he had just referred to was able to fish small calculi out of his own bladder by inserting a soft rubber catheter and entangling the stone in its eye.

The President stated that he had removed as many as fifty-four calculi, and that Physick had extracted nearly one thousand at one operation.

CHEAP WATER-BED TO PREVENT BED-SORES.

Dr. Morton mentioned the use, at the Pennsylvania Hospital for the Insane, of water-beds made by stretching a piece of gum cloth over a shallow trough. Drs. Levis and Mears also spoke of the cheapness and advantages of this substitute for rubber mattresses filled with water, which they had seen used in other cities.

IMPROVED STYPTIC COLLOID.—Collodion, 100 parts; carbolic acid, 10 parts; tannin, 5 parts; benzoic acid (from the gum), 5 parts. Mix in the above order, and perfect solution is effected. This preparation is of a brown color, and leaves, on evaporation, a strongly adherent pellicle. It instantly coagulates blood, forming a consistent clot, and a wound rapidly cicatrizes under its protection.—*Louisville Medical News.*

* See American Journal of the Medical Sciences, April, 1861.

REVIEWS AND BOOK NOTICES.

ECZEMA AND ITS MANAGEMENT. A PRACTICAL TREATISE BASED ON THE STUDY OF TWO THOUSAND FIVE HUNDRED CASES OF THE DISEASE. By L. DUNCAN BULKLEY, A.M., M.D., Attending Physician for Skin and Venereal Diseases at the New York Hospital, Out-Patient Department; Editor of the *Archives of Dermatology*, etc. New York, G. P. Putnam's Sons, 1881. 8vo, pp. 344.

A reviewer, himself an accomplished dermatologist, has recently suggested that dermatology as a specialty is likely to have a limited existence, seeing that the end of its present labors is but little more than to clear off the rubbish of ages and straighten the way to a knowledge of the facts of skin diseases, which, when once made plain, are quite within the reach of the "general practitioner."

This statement is probably true not alone of dermatology, but also of some of the other branches of practical medicine now cultivated as narrow specialties.

Dr. Bulkley's book is a vigorous labor towards this desirable end. Its aim is, in the words of the preface, "to present the general practitioner with as clear a guide as possible to the recognition and management of eczema." As more than one-third of all persons affected with skin diseases have eczema, this disease may well be called the keystone of dermatology, and the monograph before us, if its author succeed in his aim, will prove an invaluable contribution from special to general medical knowledge. And success is not only assured; it is achieved. The book is a clear guide. It is practical, simple, direct in style, logical in arrangement, and exhaustive in the treatment of the subject. It cannot fail to extend the reputation of its distinguished author. Thoughtful practitioners of a generation no longer young placed Erasmus Wilson among the authors to be reached from the office-chair: we of to-day are more fortunate in the possession of such works as those of Neumann and Duhring, and many a youngster, who to-day deems the recognition and management of eczema no very difficult matter, basing his conclusion upon what is to be seen in hospital amphitheatres, will turn, in days to come, with satisfaction to Bulkley in time of need. J. C. W.

PRACTICAL AND ANALYTICAL CHEMISTRY. By FRANK CLOWES, D.Sc., Senior Science Master at the High School, Newcastle-under-Lyme, etc. From the Third English Edition. Philadelphia, H. C. Lea's Sons & Co., 1881.

The author originally prepared the above work for the use of his own classes in analytical chemistry. It was designed to acquaint the

student first with the more common properties of some of the ordinary gases, then the simpler tests for the various bases and acids, and finally with the methods commonly employed in qualitative analysis. With this object in view, the work has been divided into seven sections; and in this edition, as in those preceding it, we discover that the information so important to the beginner in analytical chemistry is scattered. Explanatory matter which should unquestionably accompany lists given upon the first pages is found near the close, and then, too, in small type. Actual use of the work for several years with large classes of students has proven this to be an objectionable feature. Another point which we had hoped to find improved was that bearing upon the separation of the members of the various groups from each other. The author has contented himself with giving instructions for the detection of the bases, but in very few instances has he described methods which would serve not only qualitative but also quantitative purposes. An example of this is the separation of magnesium from the alkalies. The method given for this is very unsatisfactory. Upon this very point of separations we think great improvements might be made in the book.

In discussing the decomposition of silicates the author recommends for those containing alkalies the use of hydrofluoric acid or the fusion with barium hydrate, utterly ignoring the simple method of Dr. J. Lawrence Smith, —a method which is used in all American laboratories, and one which is of easy execution and yields perfectly satisfactory results.

The formulæ AmCl , AmHo , etc., instead of NH_4Cl , NH_4OH , etc., appear, and with beginners who have been taught the latter mode of representation the former tends to create confusion. Section 7 contains excellent directions for the preparation of the apparatus, reagents, etc., used in qualitative analysis.

The reactions for the rarer elements are found under Appendix I., and have been chosen with care.

The use of the spectroscope for analysis is briefly but at the same time very satisfactorily described under Appendix I., while under Appendix II. information regarding thermometric scales, weights and measures, etc., receives consideration. E. F. S.

LECTURES ON THE PATHOLOGICAL DISEASES OF THE NERVOUS SYSTEM: DISEASES OF THE SPINAL CORD. By J. M. CHARCOT. Translated from the Reports of Dr. E. BRISSAUD in *Le Progrès Médical*, by CORNELIUS G. COMEGYS, M.D.

Moved, we suppose, by a feeling of respect for his old teacher rather than by any desire of pecuniary or other gain to himself, Dr. Comegys has translated the excellent, abstruse lectures of Dr. Charcot, which appeared not long since in the columns of *Le Progrès*

Medical. The character of Prof. Charcot's work is too well known to require notice. Always brilliant and scientific, rarely of immediate practical value, always fragmentary and incomplete, it undoubtedly comes from the hand of a master, and is of service rather to the deep student of nervous diseases than to the practitioner of medicine, who must take a wide view of the whole field and not linger too long upon the scientific aspects of one portion of it.

The work of the translator is well done; but we have two faults to find: one, he sometimes cleaves too closely to the French idiom, —a trivial fault; the other, more serious, the occasional use of abominable words, either of his own invention or of that of some one equally guilty: the law makes thief and receiver—*i.e.*, inventor and user—equally criminal. For example, "lesed" instead of "diseased,"—a useless, barbarous defilement of English, to be reprobated most strongly.

GLEANINGS FROM EXCHANGES.

STRAUS ON TABETIC ECCHYMOSES.—Straus (*Archives de Neurologie*, No. 4, 1881) describes another form of cutaneous eruption succeeding the lightning pains of ataxy, in addition to the papular, pustular, herpetic, etc., eruptions described by Charcot and Vulpian. These consist in veritable ecchymoses, which appear in a certain number of ataxics after the cessation of a violent accession of pains, sometimes not showing themselves for several hours. The appearance and course which they pursue correspond entirely with the extravasations resulting from injury, and were at first supposed by the author to be really due to mechanical injury, but this he found on careful and repeated examination not to be the case. The spontaneous nature of the ecchymoses was clearly proved. The patches are irregular in shape and size, and also variable in number. The intensity of the discoloration is generally proportional to the duration and violence of the pain. They almost always occupy the member, or part of it, which has been the chief seat of pain, and may be unilateral or bilateral accordingly. Generally the ecchymoses occur at a higher level than the actual seat of pain,—in the leg, if the ankle has been specially attacked, and in the upper arm, if the elbow has been the seat of the pain.

The distribution of the patches does not correspond with the course of the cutaneous nerves, like the tabetic eruptions described by Charcot. Sometimes, but exceptionally, the ecchymoses are confined to one limb, and it may happen that they appear not in the limb which has been the seat of pain, but in the opposite. No particular period in the course of the disease can be fixed at which they

occur. Nor can they be said to be very common.

As to their mode of causation, mechanical injury being excluded, two hypotheses may be entertained. According to the one most in harmony with established data, the ecchymoses may be looked upon as the result of local vascular dilatation, either active vasodilatation or passive vaso-paralysis, caused reflexly by irritation of the posterior radicular zones acting on the anterior roots. The other hypothesis is, that the ecchymoses are due to direct irritation of vaso-dilator fibres contained in the posterior roots. Most physiologists hold that the vaso-motor nerves pass out by the anterior roots; but the experiments of Brown-Séquard seem to indicate that the posterior roots also contain vaso-motor fibres. More recently, Stricker has published experiments which he holds demonstrate the existence of vaso-dilator fibres in the posterior roots of the sciatic in the dog. This view has been contested by Cossy and Vulpian, but again affirmed by Stricker. If Stricker's view is correct, then the ecchymoses would find an explanation in the direct irritation of vaso-dilator nerves of the posterior roots by the active process on which the lightning pains depend.—*Brain*, October, 1881.

THE USE OF FUMIGATIONS OF TINCTURE OF IODINE.—"The powerful resolute action of iodine," says M. Guéneau de Mussy, "indicates its use in a large number of congestive and inflammatory affections of a subacute or chronic form" (*Le Praticien*). There are cases, however, where its direct application to the diseased organ meets with some difficulties: in affections of the tympanic cavity, for example, the membrane tolerates badly applications of tincture of iodine. The author recommends the following proceeding, which, without inflaming the tissues, brings them in contact with the remedy: a small ball of iodized cotton is enveloped in cotton-wool and introduced into the ear; the iodine is exhaled in the meatus and forms an iodized atmosphere over the membrane: at the end of twenty-four or thirty-six hours the cotton is decolorized, and should be removed.

M. de Mussy has applied the same proceeding with marked advantage in a case of chronic engorgement of the uterus. Besides general treatment and the use of belladonna suppositories, he prescribed tepid injections every evening of infusion of chamomile and borax; immediately after these injections he introduced into the vagina a tampon of iodized cotton covered with cotton-wool. Besides this direct resolute action, the author attributes to iodine emmenagogue properties, and warns against the use of applications of iodized cotton in women subject to metrorrhagia.—*Medical Press and Circular*.

CEREUS BONPLANDII.—Dr. Cullen states that this is one of the many species of cactus, and that having tried it in several cases of

functional heart disease he is willing to wait and try again before deciding it is the best remedy ever used, as asserted by several physicians. One of his cases has been at death's door several times, and has recovered under its use. The symptoms were shortness of breath, inability to lie down, great frequency of pulse, faintness, flushing of face, lips and fingers almost stagnant with blood. Having tried the usual remedies,—digitalis, bromide of potassium,—and these without success, he gave the fluid extract of *cereus bonplandii*, in fifteen-drop doses. In half an hour he repeated the dose. The action of the heart moderated, and from 125 gradually came down to 90 pulsations in the minute, or even less. In two cases there was suppression of urine, which warm baths and acetate of potash failed to relieve; and in conjunction *hair cap moss* was given,—half a drachm of the fluid extract at a dose every two hours. In one case the kidneys commenced acting, and over a gallon of water passed during the next twenty-four hours. He does not believe the patient would have lived twenty-four hours without the use of the latter remedy. The author believes that this combination is the best where the urine is scanty and albuminous, and drowsiness, indicating coma, is apparent. The few cases of benefit already have led him to believe that both drugs will be more freely used in similar cases.—*The Virginia Medical Monthly*.

SPONGE-GRAFTING—Dr. D. J. Hamilton (*Edinburgh Medical Journal*, November, 1881) asserts that the vessels of a granulating surface are not newly formed, but are simply the superficial capillaries of the part which have become displaced. They have been thrown upwards as granulation loops by the propelling action of the heart, because the restraining action of the skin has been removed.

While studying the subject, Dr. Hamilton was much struck by the similarity of the process of vascularization as seen on a granulating surface and that which occurs when a blood-clot or a fibrinous exudation is replaced by a vascular exudation tissue. Blood-clot or fibrinous lymph plays merely a mechanical and passive part in any situation where it becomes replaced by a fibrous cicatrix, and its vascularization is not owing to new formation of blood-vessels, but rather to a displacement and pushing inward of the blood-vessels of surrounding tissues. Dr. Hamilton being convinced that the blood-clot or fibrinous lymph, before organization takes place, was just as so much dead matter in a tissue, it occurred to him that if we could employ, instead of blood-clot or fibrinous lymph, some dead porous animal tissue, it also would, in the course of time, become vascularized and replaced by cicatricial tissue.

In order to test the correctness of this view, he has employed sponge in several instances

as a dressing to granulating wounds, and has found that it is gradually dissolved, the reparative material growing up within the interstices of the sponge, its interstices becoming filled with blood-vessels and cicatricial tissue, just as in the case of a blood-clot, and ultimately the whole of the sponge disappears in the wound, leaving an organizing mass of new tissue in its place. The vacuities in the sponge appear to be especially adapted for allowing of this, the framework of keratode affording support to the young vessels which are formed within it.

Dr. Hamilton's paper, which is accompanied by a fully illustrated account of the microscopic histology of the process, is too long to be readily abstracted, but is very suggestive and will repay careful perusal. One practical point may be added. He says that wherever sponge-grafting is applied it must always be remembered that the sponge must be employed simply for *filling a vacancy*; otherwise it will cause great inflammation, and the efforts at organization will not proceed.

TREATMENT OF GOITRE BY IODOFORM.—M. Boechat (*Correspondenz-Blatt für Schweizer Aerzte*) has employed iodoform in the treatment of goitre. 1. By external application the author has employed a glycerole covered with a layer of collodion: the results were *nil* in old cystic or parenchymatous goitres. In recent goitres, on the other hand, of soft consistence, the tumor diminished more rapidly than with iodine or iodide of potassium. The odor is a serious inconvenience. 2. Internally Boechat prescribes iodoform in pills of one centigramme, not more than ten a day. This treatment has only been applied in the case of two patients with old-standing goitres. 3. M. Boechat has employed interstitial injection in three cases. The first patient, who had a goitre from infancy, received for fifteen days the injection of half of a Pravaz syringe of a saturated solution of iodoform in ether. Cessation was necessary on account of very intense inflammatory reaction, but the goitre was markedly diminished. In the second case two injections were sufficient to cause amelioration in an old-standing goitre. In the third case, a very old goitre, suppuration took place with no improvement. To sum up, M. Boechat believes that this is a useful method, which might become more general.—*Medical Press and Circular*.

CASE OF COMPLETE DISAPPEARANCE OF A LARGE UTERINE MYOMA WITHIN SIX MONTHS OF THE REMOVAL OF THE UTERINE APPENDAGES.—Mr. Lawson Tait writes to the *Lancet* of October 15, giving the case of an unmarried lady, 35 years of age, suffering from a rapidly growing uterine myoma of considerable size and of about three months' duration. On attempting to operate, the tumor was found fixed in the pelvis, so that it could not be removed successfully. The uterine appendages were then taken away, the Fallo-

pian tubes being removed close to the uterine cornua. The tumor was estimated at about five pounds' weight. The patient rapidly recovered, retention of urine, which was a prominent and distressing symptom, disappearing after the operation. Seen by Mr. Tait six months later, there was not a vestige of the tumor to be discovered. It had entirely disappeared.

MISCELLANY.

THE WORK OF THE SPECIALIST.—In a recent address by Dr. J. Russell Reynolds on specialism in medicine, speaking of the multifarious duties and necessary general qualifications of the country practitioner, he says, "But if the country practitioner be thus well informed and able to do his work, and to do it well, let me ask in what way was he fitted for this work? And to this I answer without hesitation, by the work of specialists, who have taught him in the wards of hospitals and in systematic lectures, and by their writings, what their special work has enabled them to teach, and which they could not by any but the rarest gifts, or still rarer accidents, have obtained in any other way. Other men have sown, and they have reaped or entered into their labors."

A TOM-CAT STYPTIC is the term applied by some journalists to the following treatment. A woman on a Southern plantation was bleeding to death from the nose. The doctor had no ordinary expedient, but, seeing a cat in the house, he had its head chopped off. Then he secured a section of the intestine, cleaned it, tied one end and thrust it through the nostril, and lastly distended the gut by injecting water, and tied it near the nose. The bleeding was immediately stopped.—*Pacific Medical and Surgical Journal*.

BEER-DRINKING NOT "TEMPERANCE."—Prof. Binz says that in one German capital the annual consumption of beer is four hundred quarts per head, equal to rather more than a quart of beer a day. As this means fifty-two centigrammes of alcohol, it would be equal to something like five ounces of whisky in twenty-four hours.

SIR JAMES PAGET was a candidate for the Lord-Rectorship of Glasgow University a month ago, but was unsuccessful, the majority of votes (of the students, who, we believe, elect) being given to Alexander Bain, the metaphysician. The position is an honorary one, being held for one year only. The chief duty is the delivery of an annual address.

THE celebrated chemist, Prof. Bunsen, of Heidelberg, celebrated the fiftieth anniversary of his doctorate on October 17 last. On the occasion, the title of "Efficient Privy Councillor," with the prefix of Excellency, was conferred on him by the Grand Duke of Baden.

DR. LOUIS ELSBERG has resigned his professorship in the University of New York, and has been elected to the chair of Laryngology and Diseases of the Throat in Dartmouth College. Prof. Vulpian has resigned his position as Dean of the Faculty of Medicine (Paris), and Prof. Bécclard selected as his successor.

NOTES AND QUERIES.

ERRATUM.

In the formula for migraine, p. 145 of our last issue, read morphine, gr. i, instead of gr. viii.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM NOVEMBER 27 TO DECEMBER 10, 1881.

MURRAY, ROBERT, COLONEL AND SURGEON, MEDICAL DIRECTOR, MILITARY DIVISION OF THE MISSOURI.—The leave of absence granted him in S. O. 100, October 5, 1881, Military Division of the Missouri, extended two months. S. O. 272, A. G. O., December 2, 1881.

SUMMERS, JOHN E., LIEUTENANT-COLONEL AND SURGEON, MEDICAL DIRECTOR OF THE DEPARTMENT.—Granted leave of absence for twenty-five days. S. O. 123, Department of the Platte, December 1, 1881.

WRIGHT, J. P., MAJOR AND SURGEON.—The leave of absence granted him in S. O. 229, November 8, 1881, Department of the Missouri, extended twenty days on surgeon's certificate of disability. S. O. 123, Military Division of the Missouri, December 2, 1881.

LAUDERDALE, J. V., CAPTAIN AND ASSISTANT-SURGEON, McPherson Barracks, Ga., before complying with Paragraph 3, S. O. 124, c. s., Department of the South, granted leave of absence for one month, with permission to leave the Department. S. O. 136, Department of the South, December 8, 1881.

HALL, WM. R., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 224, Department of the Missouri, November 2, 1881, is extended fifteen days. S. O. 120, Military Division of the Missouri, November 25, 1881.

CORBUSIER, WM. H., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 266, A. G. O., November 25, 1881.

PERLEY, H. O. CAPTAIN AND ASSISTANT-SURGEON.—At the expiration of his present leave of absence, to report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 274, A. G. O., December 5, 1881.

DAVIS, WM. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 269, A. G. O., November 29, 1881.

STRONG, N., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Douglas, U.T., and assigned to duty as Post-Surgeon at Fort Cameron, Utah. S. O. 121, Department of the Platte, November 26, 1881.

TAYLOR, A. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Supply, Ind. Ty. S. O. 246, Department of the Missouri, November 20, 1881.

CARTER, E. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Angel Island, Cal. S. O. 203, Military Division of the Pacific and Department of California, November 22, 1881.

RAYMOND, HENRY J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Alcatraz Island, Cal. S. O. 203, Military Division of the Pacific and Department of California, November 22, 1881.

JOHNSON, RICHARD W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report by letter to the Commanding General, Department of Dakota, for assignment to duty. S. O. 272, c. s., A. G. O.

PHILADELPHIA, DECEMBER 31, 1881.

ORIGINAL LECTURES.

CLINICAL LECTURE ON A CASE OF DIABETES MELLITUS.

Delivered at the Philadelphia Hospital

BY JAMES TYSON, M.D.,

Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania, one of the Physicians to the Philadelphia Hospital, etc.

Reported by W. NORTON WHITNEY, M.D.

THE case presented to-day is one exhibiting in a well-marked degree some of the characteristic symptoms of diabetes mellitus. Its history is as follows.

J. A., æt. 36, born in Ireland; father living and in good health; mother dead. He has five brothers and one sister living and healthy. He worked on a farm until 16 years of age, when he came to this country, where he was employed in an oil-cloth factory for six years, since when he has been variously engaged in such occupations as bar-tender, porter, car-conductor, etc. He had a chancre nearly four years ago, and since then his health has not been good. About fourteen months ago he noticed that he had an unquenchable thirst, with increased appetite, notwithstanding which he lost flesh. He complained also of stiffness and numbness in his feet. The urine was greatly increased in quantity, clear, and light in color. He was forced to rise four or five times during the night to urinate. Upon admission—February 2, 1881—he was passing thirty pints of urine in twenty-four hours. During the two months following the date of his admission to the hospital his urine averaged about twenty-five pints per day; but at the end of that time it was reduced from thirty to nineteen pints in twenty-four hours, under a dietetic treatment. From this time until he came under my care we have no records of any special treatment, and he used the usual mixed diet of the hospital. On November 4 he passed 18.5 pints of urine, with a specific gravity of 1032, and containing 18.5 ounces of sugar, in twenty-four hours. On November 5 he was ordered salicylate of sodium, gr. xx, four times a day. On November 11 the quantity of urine was 31.5 pints (sp. gr. 1032, and sugar 32.5 ounces) in the twenty-four hours. November 26.—Urine, 51 pints; sugar, 32.8 ounces. He weighed on this day 121.5 pounds. The salicylate of sodium was discontinued and codeia (gr. $\frac{1}{2}$ t. d.) ordered. On November 27 he passed 50 pints; November 28, 41 pints; November 29, 41 pints; November 30, 40 pints, containing sugar 32 ounces. Codeia in-

creased to gr. 1 t. d. December 1, 37.5 pints; December 2, 31.5 pints; weight, 124.5 pounds,—a gain of three pounds since November 26. December 3, 34 pints. Increased codeia to gr. $1\frac{1}{2}$ t. d. December 4, 34 pints; December 5, 21 $\frac{1}{2}$ pints; December 6, 30 $\frac{1}{2}$ pints; December 7, 27 $\frac{1}{2}$ pints; December 8, 21 $\frac{1}{2}$ pints; December 9, 17 $\frac{1}{2}$ pints.

It will be noted from the history that the patient had a chancre nearly four years ago, It has, of course, no necessary relation to his present disease; but he says that succeeding the chancre he had a bubo which stubbornly resisted treatment for eighteen months. During this period he became very much run down, and soon after—that is, fourteen months ago—the symptoms narrated made their appearance. As stated in the history, he came under my care on November 4. He was then passing eighteen and one-half pints of urine in twenty-four hours, of a specific gravity of 1032, and containing sugar in abundance. Hunger and extreme thirst were also noticeable symptoms. An obstinate ulcer upon one of the toes was present, which had ensued upon so simple a treatment as painting the toe with iodine. This is a significant symptom, one which is not unusual, and indicates an advanced degree of malnutrition. For the same reason surgical operations are often unsuccessful and sometimes fatal. Gangrene from trivial causes is a result of such conditions.

The symptoms named are of themselves suggestive, but others are also present. Dryness of the mouth and skin, and absence of perspiration, may be mentioned. Itching of the skin is a more uncommon symptom of the disease. This symptom is often annoying in the vicinity of the labia in females, and of the meatus urinarius of males, when it is ascribed to the large quantity of sugar-saturated water passing over them. In advanced stages the lungs are often affected, and a cough is frequently the symptom of the beginning of cheesy phthisis, which is frequently the immediate cause of death. Cataract also occurs in the later stages. Extreme muscular weakness, and tottering gait, are conspicuous symptoms. The blood as well as the urine contains sugar, and sometimes, in the latter stages, its derivatives alcohol and acetone. The latter contributes an acetous or vinous odor to the breath, which is present in our patient. The blood-corpuscles are also said by

Griesinger to be diminished in number,—an observation recently confirmed by Dr. F. P. Henry, of Philadelphia. Lipæmia, or an excess of fat, in a state of molecular subdivision, in the blood, is a symptom sometimes met with.

Such is a brief picture of the most striking symptoms of diabetes, not all of which are presented by our patient, although the thirst, dryness of skin, abundant urine, enormous appetite, accompanied by wasting and loss of strength, are here strongly suggestive of diabetes. They can hardly be said to be sufficiently diagnostic in the face of the existence of another form of polyuria in which all of the latter symptoms may be present while sugar is absent from the urine. This condition is *diabetes insipidus*. The diagnosis is made by a further study of the urine. In both it is excessive; but in the saccharine diabetes it is of high specific gravity and contains sugar, while in the diabetes insipidus it is of low specific gravity and contains no sugar.

Let us therefore study the urine together. Observe its clear, almost colorless appearance; its specific gravity, 1032, not as high as it has been, but still much above the normal. In a case of diabetes insipidus shown you a few weeks ago it was 1002. Let us go further and test it for sugar. The best qualitative tests for sugar are the copper tests and the fermentation test, but the former enable us to detect smaller quantities of sugar. Of the copper tests, the solution known as Fehling's is more delicate and less liable to mislead in its results. But often the Fehling's solution is not at hand or not obtainable when the reagents for Trommer's are. The latter is best used by adding to a small quantity of urine in a test-tube half its bulk of solution of potash or soda, *then just enough solution of sulphate of copper to give the mixture a distinct blue tinge*. If sugar is present, the precipitate of protoxide of copper which takes place the moment the copper falls into the mixture is redissolved on agitation: so that such solution is presumptive evidence of the presence of sugar, while it is, however, not conclusive. If now the mixture be boiled, if sugar is present the protoxide is reduced and a yellow hydrated suboxide of copper is thrown down, which is soon dehydrated and becomes red.

As other substances besides sugar may

reduce the copper or mask the precipitate, their presence sometimes becomes a source of error. Uric acid, for example, may reduce the protoxide of copper, while the presence of ammonium chloride and creatinine may prevent the precipitation of the red suboxide. The amount of sugar thus masked is usually small and not often of much clinical importance. A precipitate, and not a simple decoloration, is an essential criterion of the presence of sugar, while the gray precipitate of earthy phosphates which always takes place is scarcely likely to be mistaken for that of red suboxide of copper. *The addition of too much of the copper solution must also be avoided*, because by such a course a yellow precipitate, on boiling, may be obtained from any urine. Fehling's test depends upon the same principles as Trommer's, and is consequently subject to the same errors, but it is rather more delicate, probably because a more thorough solution of the copper is obtained by the tartaric acid it contains. I have said that if we add liquor potassæ to a solution of cupric sulphate, the protoxide of copper is precipitated, which is again dissolved if sugar is present. But to produce a permanent solution sugar is evidently unsuitable. For this purpose, therefore, some other agent is necessary. Such an agent is tartaric acid or tartrate of potassium, as employed in this test.*

The principal objection to Fehling's solution is its liability to alter when kept for any length of time. On using it, therefore, it should always be heated, and for qualitative testing it is preferable first to dilute it by about four times its bulk of distilled water. If the suboxide is not precipitated by boiling, the solution is good, and a drop of the suspected urine is allowed to fall into the boiling solution. If sugar is present in large amount, a single drop of the urine will often throw down a dense orange-red precipitate. At other times a larger quantity of urine must be added; but if no suboxide is thrown down by the time an equal bulk of urine is added, the boiling being repeated, it may be considered for clinical purposes that sugar is absent.

* The following is the formula for Fehling's solution: Dissolve 34.652 grammes cupric sulphate in 200 grammes distilled water, and 173 grammes of neutral tartrate of sodium in 500 to 600 grammes of solution of caustic potash (sp. gr. 1.12); add the copper solution to the soda solution, and dilute to 1 litre. Ten cubic centimetres of this solution correspond to .05 gramme of sugar.

The fermentation test depends upon the power of yeast to decompose sugar into alcohol and carbonic acid. To, say, four ounces of the suspected urine of which the specific gravity has been taken, a little yeast is added. The mixture is kept at a temperature of 100° F. for at least twelve hours. The specific gravity is again taken; and if it is less than before fermentation, sugar has been present. This test has also the advantage of being quantitative; for Dr. Roberts, of Manchester, has shown that the difference in specific gravity before and after fermentation indicates the number of grains of sugar per fluidounce.

By means of this last test we have found that our patient, a few days ago, was passing twenty-four grains to the fluidounce, or thirty ounces of sugar in twenty-four hours. This is a very large quantity, and more than the usual secretion, even in severe cases. The largest quantity on record is, I believe, fifty ounces in twenty-four hours; but the average is from half an ounce to eight ounces in urine containing from five to thirty grains to the ounce. The quantity of the urine varies considerably, and has been said to reach seventy pounds in a day.

A few words on the *pathology* of the disease in question. It is well known that the liver, from the glucose prepared for it in the intestinal digestion of starchy and saccharine foods, forms glycogen, which it stores up in its cells for future use. This glycogen is reconverted into glucose slowly and gradually as the wants of the economy require it. Now, it is possible that, in consequence of some derangement of the function of the liver, the glucose may pass directly through it without being first converted into glycogen; or the glycogen, once formed, may be converted into glucose more rapidly than it can be consumed in the blood, so that it accumulates there and is eliminated by the kidneys. The former is the view of Pavy, the latter that of Claude Bernard. It is not impossible that glycosuria may result in both ways.

It has been further experimentally ascertained that irritation of a certain point in the floor of the fourth ventricle (the nib of the *calamus scriptorius*) is followed by glycosuria. It is found that this is accompanied by a dilatation of the blood-vessels of the liver, which allow the blood to flow through them with more than usual rapidity,—a rate much too great to permit the normal

conversion of glucose into glycogen and glycogen into glucose. But there are other ways also in which we may conceive sugar to enter the blood in excess and reappear in the urine. The simplest of these is over-ingestion of sugar-producing food or sugar itself. Such a cause would be a diet of pure vegetable and starch foods. From such causes as these it is not unlikely that mild cases of diabetes originate; and it is such cases that are readily cured by cutting off starchy and saccharine foods.

From the fact that the nervous irritation I have mentioned produces glycosuria, it is held by some that a nervous lesion is always at the bottom of diabetes mellitus: in fact, it is defined by Dickinson as a nervous disease. This view I cannot accept; for, apart from the fact that many cases of true diabetes terminate without the slightest trace of nervous lesion, most cases of glycosuria which are directly traceable to nervous lesions fail to exhibit any of the other symptoms of diabetes; and simple glycosuria is not diabetes.

When we seek for a *morbid anatomy* of diabetes, none that may be considered essential meets us. Dr. Dickinson describes a peculiar "cribriform condition" of the nerve-centres, which is apparently the result of hemorrhagic extravasations about the small blood-vessels, with subsequent destruction and absorption of the nervous matter in the neighborhood. These changes, he says, are easily visible to the naked eye; but as the same condition has been discovered in other diseases, and has been found wanting in many cases of diabetes, we can hardly claim that it is its true cause. It is not impossible that it is a secondary result of the saturation of the vessels with sugar from the saccharine blood by which their walls are bathed. The liver is generally enlarged, sometimes to two or three times its normal size, and its cells show a disposition to fuse together and to strike a red color with iodine. Rindfleisch describes the changes as most marked in the peripheral zone supplied by the portal vein, while that of the hepatic artery is fatty, and the inner zone, or that of the hepatic vein, is nearly normal.

The kidneys, in advanced cases, sometimes show the results of long-continued hyperæmia by the presence of parenchymatous nephritis,—results which are secondary only. The pancreas is surprisingly often the seat of various disease, but no

essential relation has been shown to exist between its lesions and diabetes.

The *prognosis* of diabetes mellitus is generally considered unfavorable; but I am certain that the gravity of the average case is exaggerated by such a statement. Many cases are curable, and there are few which are not amenable to treatment; so that, if taken in time, the disease may be rendered harmless so long as the prescribed treatment is carried out. A few cases only are beyond relief when they come under the notice of the physician, and the unfavorable course of some is the result of an unwillingness of the patient to submit to treatment. The prognosis is most unfavorable in young patients under twenty. Where there is serious nervous lesion the prognosis depends upon that of the nervous disease itself.

Treatment.—While we cannot always reason from pathology to successful treatment, the relations between the two are so evident that I make no apology for having detained you with this discussion. Having learned that the starchy and saccharine foods pass through the body in diabetes without being assimilated, it is evident that they can serve no useful purpose as food. Much better, therefore, withhold them, and substitute such foods as can be assimilated and which may therefore contribute to the strength of the patient. Such foods, at least in the early stages, are fatty and albuminous substances. But the effect of such restriction seems, in some cases at least, to do more than merely supply an assimilable diet. Whether by furnishing rest and encouraging the natural reparative tendency of the organs involved, or in some other inexplicable manner, the more or less prolonged use of such a diet is sometimes followed by complete recovery. The details of a suitable non-amylaceous diet will be found in the text-books; but I will mention to you here, as admissible, beef, mutton, fish, oysters, game, eggs, milk, butter, non-saccharine wines. Nor need vegetables be entirely eschewed. The green vegetables, such as spinach, green cabbage, cauliflower, Brussels sprouts, string beans, water-cress, etc., may all be used in moderation, subject, however, to such variations as the peculiarities of the case may demand. To this may be added bread made of gluten flour, now readily obtainable and tolerably free from starch. Without going more minutely into the matter of diabetic diet,

I would state that the variety of admissible articles is now so great that the monotony formerly so much complained of is no longer in the way of those who have the means to provide the variety permitted.

As a form of dietetic treatment may be mentioned the *skimmed-milk* treatment suggested by Dr. Donkin and very enthusiastically defended by him. At first, and indeed still, greatly opposed by many English physicians, the value of this mode of treatment is being more and more acknowledged as cases are reported of recovery under its use; and where it is possible and willingly submitted to by the patient, I now usually begin treatment with it, and, if the sugar disappears under its use, resort to no other. One of the greatest inconveniences in its use is the enormous amount of fluid which requires to be ingested in order to maintain the weight of the body at its standard, eight to fourteen pints *per diem* being sometimes required to do this. This is, however, diminished by taking part of the milk in the shape of curd. One-half or more of the skim-milk may be used in this way, and thus the ingestion of a large amount of water obviated. Where so much water is introduced, of course a proportionate amount must be excreted, which is always, however, somewhat less than that ingested, the lungs, skin, and fæces removing a part of the water. Of skim-milk ninety per cent. is water; so that this ninety per cent. must be excreted by the skin, lungs, bowels, and kidneys. It was observed by Dr. Donkin that the amount of urine secreted amounted, on an average, to two pints less than the fluid ingested; and in a patient now under my observation, who is drinking eight pints and using the curd from two pints, this proportion is maintained with remarkable constancy.* But it is evident that while this ratio of urine secreted to milk ingested is maintained for a given quantity as that ingested by the patient alluded to, the ratio could not be maintained for a smaller or larger quantity ingested.

You will probably infer from what I have said that I deem the dietetic plan of treatment more valuable than any other. At the same time I do not wish to be considered as altogether repudiating the medi-

* In the case referred to, the effect of the skim-milk diet is promptly to remove all traces of sugar when the urine is tested in the most crucial manner: while the addition of even gluten bread to the diet was followed by the return of sugar in the urine.

cinal. There are undoubtedly drugs which diminish the elimination of sugar, although I should be sorry to have to rely upon any one to the exclusion of diet. Among the most efficient in my hands has been the *fluid extract of ergot* in doses of from twenty drops increased to a fluidrachm three and even four times a day. I have found it, however, totally inefficient in some cases, where I have given as much as four drachms of the fluid extract in a day. It may be increased, if the stomach bears it, to two drachms three times a day; but more than this I should not care to give. *Opium* is a remedy to which was early ascribed efficiency in the treatment of diabetes; but its constipating tendencies contra-indicate its use, and clinicians have been searching among its alkaloids for the element producing the desired effect. There is reason to believe that *codeia* is at least one to which the benefit may be ascribed. It was long ago tried for this purpose, with only partially satisfactory results; but recently its use has been revived, with encouraging results, and I determined to try it in the present case. Unfortunately, our hospital cannot furnish the required conditions of a dietetic treatment. On the other hand, this very circumstance makes it possible to determine the true value of drugs independent of dietetic treatment; and this is certainly the only way to test them. Accordingly, after a trial of salicylate of sodium,—a remedy recently suggested, which I gave in doses of twenty grains four times a day for three weeks, without any result,—on November 26, on which he passed fifty-one pints of urine in the twenty-four hours, containing two pounds of sugar, I placed him upon *codeia*,—half a grain three times a day; increased it to one grain three times a day on the 30th; to one and one-half grains on December 3. On the day after the *codeia* was commenced he passed fifty ounces of urine; on the next day, thirty-seven and one-half ounces; and from that date the quantity of urine steadily diminished, until it reached, on December 9, seventeen pints and three-quarters. Corresponding to this diminished secretion, he tells us that his thirst is much less marked, and he drinks much less water. Indeed, he says he feels altogether better. He is constipated, but not more so than he was before taking the remedy; but no narcotic effect has resulted.

It is evident, therefore, that the use of the remedy in this case has been attended by an improvement of symptoms. I do not contend that we dare infer from the results reached at this stage of the present case that the remedy is an efficient one. I merely present it to you as another added to the cases already reported under this treatment. On the other hand, had the remedy failed, it would have been equally unfair to declare the remedy useless; for the case is a very bad one, and the quantity of urine and sugar secreted in the twenty-four hours is enormous; so that it is not likely that by any measures we can do more than palliate.

The quantity administered in this case is much less than is sometimes given. Dr. Pavy first recommended it, and gave as much as ten grains three times a day. Dr. Brunton recommends it in doses of one-quarter to one-half a grain three times a day at first, the doses being increased until the sugar disappears or drowsiness supervenes. Dr. Cavafy has given fifteen grains three times a day with satisfactory results. Dr. R. Shingleton Smith* considers that all other treatment, including dieting, is inferior to *codeia*. My experience with the drug has not been large enough to justify a decided opinion on the comparative value of *codeia* and diet, but, with such experience as I have had, I should be afraid to rely upon it to the exclusion of diet. I shall, however, continue the trial.

ORIGINAL COMMUNICATIONS.

SOME COMMENTS ON THE PAPER "THE ETIOLOGY OF TUMORS."†

Read before the Pathological Society of Philadelphia, April 28, 1881.

BY H. F. FORMAD, M.D.,

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IN the paper which is the subject of discussion this evening I endeavored to prove the proposition, viz., that all *primary* tumors, save the purely congenital neoplasms, are direct products of the inflammatory process.

A certain class of tumors are admitted by

* Philadelphia Medical Times, December 19, 1881, p. 127, from British Medical Journal, vol. ii., 1881, p. 474.

† The paper has been published in full in pamphlet form by order of the Society. An abstract of it, entitled "The Inflammatory Origin of Tumors," appeared first in Seguin's "Archives of Medicine," October, 1881.

several pathologists to be due to inflammation; I ascribe this cause to nearly all tumors. Again, those pathologists regard inflammation only as an exciting cause, provided there is a predisposition to tumor-formation. I am inclined to regard the inflammatory process as the factor which creates this predisposition, and hence consider inflammation as a direct predisposing cause for all true tumors. This is the difference between the view held by the real authorities of the inflammatory theory—S. D. Gross, Virchow, and Samuel—and the view which I advocate.

The idea of an inflammatory origin of tumors begins of late to gain more and more ground among the working pathologists. Several of the true tumors are nearly generally admitted to be due to inflammatory causes, and, although no one expresses himself decidedly upon the subject, I do believe that all will ultimately return to the view which the fathers of pathology originally held.

My studies on the etiology of tumors are by far not completed: still, I bring the work forward in its present state in order to get the full benefit of the criticism. I want advice and co-operation; I desire to learn whether the new facts which I obtained by microscopic and other studies may admit of an interpretation different from that which I gave them. At any rate, I consider my work only an attempt at the solution of the question of the etiology of tumors, a question so much neglected and which imperatively demands active work and not hypotheses.

Before I enter into a review of my arguments I desire here to call attention and to define more closely the purely congenital anomalies called "tumors," for which I am unable to prove an inflammatory cause.

The question first arises, what is a tumor and what is not a tumor?

In the sense of Virchow, any circumscribed elevation over a given surface, or any excessive enlargement, is considered a tumor. The products of specific inflammation, such as tubercle, gumma, glands, lupus, and lepra, also the cysts and most of the monstrosities and the hypertrophies, would consequently belong here.

I consider the following neoplasms which are composed of new-formed or overgrown tissues as *true* tumors:

Fibroma.
Lipoma.

Chondroma.

Osteoma.

Leio-myoma.

Myxoma.

Lymphoma.

Sarcoma.

Glioma.

Papilloma.

Simple epithelioma (as represented by corns, horns, onychoma, etc.).

Carcinoma.

Tyroma (tubercular tumor).

Gumma.

Lupus, lepra, and glanders.

The following congenital neoplasms I consider as simple anomalies or *false* tumors:

Angeioma.

Lymphangeioma.

Some keloids and other nævi.

Rhabdo-myoma.

Adenoma.

Dermoids and

Other cysts.

All these last-named neoplasms should be excluded from the tumors. I suggest this, not because I cannot prove their cause directly to inflammation, but because they are simple anomalies or malformations, just like a supernumerary finger. Nobody can acquire any of them except the ordinary cyst. The individual must be born with them. Cohnheim calls them properly "monstrosities."

It is, however, possible that even here inflammation is concerned to some extent. Smallpox and syphilis, which are inflammations, are known to affect the fœtus in utero. Why, then, could we not have tumors as pre-natal inflammatory products? Still, I do not want to base my arguments on hypotheses. The fact is that children are born with large or small masses of any one of the above-mentioned congenital neoplasms.

Objection might be raised to the inclusion of adenoma in this category; but I have here reference mainly to the heterotopic adenoma, the perfect homologue of the mammæ, which grows prominent only at puberty, simultaneous with them, and governed in time and grows by the same laws. The glandular acini which gave rise to the adenoma and those from which the mammary glands started were both deposited in the fœtus, and in both were dormant up to puberty, when they developed to structures perfectly alike, the dif-

ference being only that the one has its physiological purpose and location, and the other not. The histological distinction between them as given by authors I was not able to see, after having examined *every* part of the structure. The homotopic adenomata, as occurring in connection with glands, are simple hypertrophies of any one of the racemose glands, or of a part of one.

The dermoid cysts are the best representatives of this group of anomalies. It is well established that they are simple local invaginations and misplacements of mainly epiblastic formations during early foetal life. Certain parts of organs, such as skin, hairs, glands, teeth, etc., which usually are represented in these anomalies, proceed to full development and size and no further. There is nothing pathological in these structures except the location, unless combined with other new formation.

Ordinary cystic formations are also frequently met with in the foetus, although many cysts are acquired in later life by the agency of various pathological factors, including inflammation. Frequently tumors are the seat of cystic formation due to degeneration or softening in their interior. The formation of cysts is nearly always a passive process. Many arise from mechanical obstruction of outlets of glands, or from exudation of liquid into closed cavities. None of them has anything in common with tumors except the tumefaction.

Angeioma and lymphangeioma and the keloids are exclusively congenital formations; they even seldom present themselves as tumefactions, and only then if subject to cavernous change and combination with other lesions. There is no reason why these anomalies should be classed with the tumors.

The same may be said concerning rhabdo-myoma, the strictly congenital rare new growth, made up of misplaced striated muscular tissue.

It is in these congenital neoplasms alone that an inflammatory origin is not clearly evident.

OTHER VIEWS.

Without entering into details, I will at this point enumerate the other theories on the etiology of tumors.*

Those theories, although held by high

authorities, and ingenious as they are, hardly go beyond the level of pure hypothesis. Hypotheses and speculations are easily disposed of by facts like those presented in favor of an inflammatory origin of tumors.

No tumor has ever been *proven* to have originated *spontaneously*, or to be produced by a certain *dyscrasia* of the blood, or by *nervous influences*. We are not more justified in applying this or that pet hypothesis for the etiology of tumors without proving it, than to declare a house to have arisen through the instrumentality of mysterious forces because we do not know who built it, and do not care to inquire by whom and how it was built.

The evolution and involution of tissues as conditioned by age, referred to by Thiersch and Rindfleisch, and best explained by Dr. Ch. B. Nancrede (in his highly suggestive communication to the Pathological Society, 1876), are regarded as important predisposing factors in tumor-formation, which at the same time decide the variety of tumors.

There can be no doubt that evolution and involution of the tissues influence the kind of tumor-formation; but I do not believe that these conditions in themselves predispose particularly to tumors, even in the presence of an over-supply of blood. We want certain changes in the integrity of the tissue (to be referred to later), and these can be brought about by the inflammatory process alone,—by nothing else.

Due credit must also be given to Cohnheim for his embryonal theory of tumor-formation. Cohnheim uses the well-established congenital derivation of the dermoids, rhabdo-myoma, angeioma, etc., as a basis for his hypothesis, and jumps at once to the conclusion that all tumors are congenital and of embryonal origin. Some new formations which he admits to be of inflammatory origin—viz., gumma, tubercle, lupus, neuroma, osteophytes, etc.—he excludes from the category of true tumors.

But how great a reduction in number will Prof. Cohnheim's list of true tumors experience should it be proven that all tumors are of inflammatory origin save those few congenital formations which I suggest to exclude from the list of true tumors!

Epstein (*Zeitschr. f. Heilkunde*, i., 1880) believes to have found anatomical proof

* In my monograph, "The Etiology of Tumors," I gave all these views in full.

for Cohnheim's hypothesis. He observed epithelial pearls in the mucous membrane of the gums, tongue, and genitals of newborn infants, and regards them as the famous supernumerary embryonic collection of cells. This, I think, is a great error. It has been shown by several observers that wherever squamous stratified epithelium exists epithelial pearls may be found,—viz., in the epidermis and in all epiblastic mucous membranes. I believe that the arrangement of epithelium into pearls is always a sign of retrograde change, and, as well as the arrangement of any kind of cells into nodes, signifies usually an antemortem act of cells, and not "dormant supernumerary embryonal collections."

To find further proofs for the embryonal theory of Cohnheim, his pupils made extensive experiments. They succeeded; and the successful results, which were supposed to give a firm basis to the embryonal theory, were announced to the world in the renowned *Archives of Virchow*.

Unfortunately, however, for the Leipsic laboratory, the trifling efforts of American workers in experimental pathology gave results entirely opposed to those obtained by Cohnheim's pupils, and have probably forever demolished the beautiful embryonal theory of the etiology of tumors, as will be shown farther on.

EXPERIMENTS.

Allow me now to reflect one moment upon the results of the experiments made with the object of ascertaining the cause of tumors. I will review here only the main points of interest; the details are given in my monograph.

So far only little success was obtained in this line by experiments. Still, this much can be ascertained from them:

First, that tumor cannot be inoculated by virtue of any infective or specific properties; and

Second, that small living particles of tumors can be successfully transplanted from man to animals, and upon transplantation may continue to grow.

No one of the experimenters really succeeded to "inoculate" a tumor with tumor-juices except in a few very doubtful instances.

The juices as occurring in malignant tumors are always the products of degeneration of the tissue or cells composing them. The cells suspended in that juice

are dead, having undergone fatty or some other degeneration, and this is the reason that injection with juices fails. If particles of living tumor-tissue happen to be suspended in that juice, "inoculation" might succeed, but not with mere pure tumor-juice. In the few apparently successful inoculations with juices, particles of perfect tumor-tissue undoubtedly were injected together with them.

The notion of a specific tumor-virus held by some of the highest authorities is thus fully disposed of.

There are recorded a number of successful transplantations of tumors: *i.e.*, small fragments of tumors when put into the subcutaneous tissue of animals grew and enlarged in size as long as observed, if conditions were favorable.

This, however, does not prove anything for the etiology of primary tumors. It has been shown that if a cock's spur be transplanted from the leg to the comb it will often grow excessively; another most perfect parallel to transplantations of tumors we have in skin-grafting and in plastic surgery.

Other observers, again, impressed with Cohnheim's idea that tumors arise only from misplaced (heterotopic) cells or tissues, experimented as follows:

1st. Particles of tissues taken from *adult* animals were introduced into the circulation and into the interior of organs, but they failed to grow and were ultimately absorbed.

2d. Foetal tissues (particles of embryonal cartilage, etc.) were similarly transplanted, and they grew and developed to moderate-sized tissue-masses (tumors).

Through these results Cohnheim's proposition that tumors arise only from misplaced *embryonal* cells was regarded as proven.

But this was too hasty a conclusion, and it appears also that those experiments were conducted very carelessly, as the results could not be confirmed.

The exhaustive experiments which Henry Wile made in the pathological laboratory of the University of Pennsylvania (partly quoted in my monograph and partly not published yet) positively prove that transplanted *adult* tissues grow as well as foetal ones, and never became absorbed in carefully-executed experiments. Thus the much-dwelt-upon proofs for the embryonal hypothesis of Cohnheim are gone.

INFLAMMATION AS THE SUPREME CAUSE.

Allow me now to review the arguments in favor of, and the proofs for, an inflammatory origin of tumors, as brought forward in my paper. These are of three kinds: 1st, proofs by analogy; 2d, clinical and statistical proofs; and 3d, microscopical proofs.

1. *The close analogy of tumors and inflammatory products is strongly in favor of our proposition.*

Careful study and comparison have shown that no line of distinction can be drawn between true tumors and chronic inflammatory products; in fact, many of the latter are recognized as true tumors.

The criterion of true tumors is regarded to be their tendency to permanency in contradistinction to inflammatory products, which tend to disappear. The cases collected and the views of reliable observers recorded in my monograph show this to be incorrect. It has been proven that tumors occasionally heal and disappear. On the other hand, it is well known that only acute inflammatory products tend to disappear, while many chronic ones never do disappear, and that the symptoms and cause of the latter are frequently less obvious than in the case of tumors.

The connective tissue which, in proliferating, constitutes the main bulk of elephantiasis and of the cirrhosis of organs and a good many other pathological tissues outside of tumors, never disappears.

Virchow properly considers elephantiasis Arabum and soft fibroma morphologically and etiologically identical, and in the same sense he does not admit any difference between the connective tissue of an advanced cirrhosis of organs and that of a diffused fibroma. In fact, we are only in the habit of calling a proliferation of connective tissue in the mamma an intercanalicular fibroma, because the connective tissue affects an external part, while a similar affection of the liver or kidney we term an inflammatory one—a cirrhosis. Why should we make such a distinction?

Gummata, tubercles (tyromata), lupus, the well-established products of inflammation, are unquestionably true tumors.

Lucke observed that sarcomata in young individuals occasionally grow as rapidly as acute abscesses, and have been frequently mistaken for the latter.

Tissues which are most liable to be the seat of inflammation are also the most

common seat of tumors. Again, those tissues which do not participate in active inflammatory processes (ganglionic and striated muscular tissue) seldom or never give rise to tumors.

The extensive and careful statistics of Dr. D'Espine, of Geneva, show that the os uteri and the stomach are the most frequent seats of primary cancer, and they are also distinguished for their remarkable liability to catarrhs. Virchow has repeatedly pointed out in a catarrhally inflamed gastric mucous membrane the gradual transition to carcinoma, a fact observed also by Dr. J. H. Musser and myself.

The healing process in malignant tumors (wherever it occurs) is precisely the same as that of an ordinary granulating ulcer. Here and there, healing is accomplished by the additional formation of connective tissue,—i.e., cicatrization.

But the most beautiful analogy between tumors and inflammatory products is demonstrable by the microscope, which led to the discovery of new and important facts.

2. *Clinical and statistical proofs.*

My own experience is limited, but in the cases of tumors in which I had the opportunity to get the history myself, or where I insisted upon an exhaustive anamnesis in cases of others, it was possible in nearly one-half of the cases to trace out a local inflammatory process preceding the tumors at some time or other. Sometimes it dated years back. Careful inquiries nearly always revealed some cause,—viz., an injury, long-standing irritation, mechanical or toxic, or an impaired or excessive use of the part, pressure, or a long-standing catarrh, or something of that nature.

It is also an established fact that those organs and regions of the body which, from their position and their function, are most exposed to injuries or irritation are the most usual seat of tumors. This is proven for the orifices of the digestive and genito-urinary tract, which are so much exposed to injuries and are also classical seats of especially malignant tumors.

Primary cancer of gall-bladder has been repeatedly traced to gall-stones; that of the urinary bladder to a similar cause.

For surface-cancers an inflammatory origin may safely be regarded as proven. I know of scores of epitheliomata which had been traced to little sores produced by injury. Nearly all those everlasting leg ulcers are epitheliomata.

It is just here that the influence of evolution and involution of tissue upon the variety of tumor does not hold good. Repeatedly have I seen epitheliomata of lower extremities in young persons directly produced by injuries, burns, etc. (Clinical service of Prof. Agnew.)

Who will deny the inflammatory origin of the very common epithelioma of lip? or that of tongue or penis?—the first nearly exclusively occurring in smokers, the second always being associated with injury of tongue by sharp teeth or otherwise, and the third with congenital or acquired phimosis.

Chronic inflammations of the skin, as occurring on workers in coal-tar and paraffin manufactories, etc., commonly lead to epithelioma. A similar origin has the chimney-sweeper's cancer.

It has been proven that long-continued catarrhs of stomach (particularly in drunkards) lead to cancer.

Through irritation and injury common warts and scars are produced; further repeated injuries very frequently convert them into malignant tumors (cancers, sarcomata).

Prof. Agnew removed from the back of a middle-aged person a sarcoma developed secondarily in a scar. Some time previously he had removed (from the same patient) from the same spot, or from above that spot, a lipoma.

Sarcomata are commonly due to direct injury; neuromata exclusively so.

Glioma and tyroma, as met with in the brain, are nearly always traceable to falls and blows.

Hundreds of cases of fibroma, lipoma, chondroma, and osteoma have been traced by distinct and clear histories to pressure and irritation, or directly to blows, fractures, cuts, and other injuries.

Winkel, who investigated exhaustively the etiology of fibromata and myomata of the uterus, came to the conclusion that these tumors are caused either by direct excitants, viz., coition, injury, abortion, rough removal of placenta, cellulitis, or, indirectly, through repeated lifting, shock, sudden hyperæmia, etc.

No reliable line of distinction can be drawn between the lymphomata and lymphadenitis.

Any one can convince himself of the above-mentioned facts by just looking carefully over the literature, and by taking

careful histories of his own cases. Hundreds of tumor cases of positively traumatic origin are also recorded in the classical works on tumors of Virchow, Weber, Müller, and Broca.

Unfortunately, however, these facts are not generally known; the literature is not sufficiently studied, and the histories of tumor cases are not sufficiently carefully inquired into.

Inflammation is the only factor which has been traced to be the positive cause of tumors in a number of cases. This is proven by high authority and statistics. But as these authenticated cases of inflammatory origin are in moderate number, and as those with no cause (by reason of careless note-taking) are in enormous majority, the inference is drawn that inflammation has little or no significance in the pathogenesis of tumors.

I beg leave to argue as follows. In a certain number of cases it is positively known that inflammation preceded and was the cause of the new growth. In regard to the remaining cases of tumors we know nothing; no positive cause could be traced. Hence I think it logical, for the present, to consider inflammation as the cause of all true tumors. All other alleged causes are only speculations, and nothing reasonable can be brought forward against the inflammatory theory. Speculations are valueless, I think, in the presence of positive facts, even if these be few in number. In science any amount of negative results are always disregarded in the presence of even a few positive facts. *Until contrary proof be given, we are at present, by a mass of evidence, forced to the conclusion that tumors represent merely one of the terminations of inflammation.*

3. *Microscopic proofs.*—Here I will make the following abstract from my first paper:

The question now arises, in what way does inflammation produce a tumor, and why and when does a tumor develop after an injury? Why is not every injury followed by a tumor, if inflammation is the cause? Prof. Maas's* ingenious answer was that it depends upon the presence or absence of Cohnheim's supernumerary embryonic cells at the seat of the injury. If those misplaced or aberrant cells happen to be present in a part, a trauma will induce inflammation, followed by a tumor; if no extra cells are present, a simple in-

* Berliner Klin. Wochenschrift, No. 47, 1880.

flammation will follow, and nothing more. But this is only a hypothesis; it cannot be demonstrated. Embryonal (foetal) cells could not continue to exist unchanged in the adult individual; nor do they need to be pre-existing in order to form a tumor. They can be and are always created by any inflammatory process.

I will try to answer the above question by facts which microscopic examination reveals, and which will show that the study of histogenesis must go hand in hand with that of the etiology and possibly might disclose the mysteries of the cause of tumor.

It is true that not always direct observation of active pathological processes can be made. In the case of tumors, only inferences of previous cell-activity can be drawn from the microscopic picture; but the pathological process can frequently be traced out under the microscope, from the various transitional stages of the elements of the new forming or formed tissue.

It is in accordance with the modern views to say that every tumor has its strict physiological prototype. Even for the cancer, only the peculiar atypical arrangement of the cells remained a criterion, while the cells themselves are supposed to be strictly identical with those found normally.

It appears to me, and the more I study the histology of tumors the more I become convinced, that any variety of cells composing a tumor are not identical with those found normally, but resemble those met with in chronic inflammatory products.

In tumors, the shape and the peculiar variations in size of the cells and nuclei, the character of the intracellular net-work and of the amœboid motion of certain cells, the intercellular substance, the occasional arrangement into nodes, the relation to reticulum and blood-vessels, and the peculiarity of the latter, are all precisely like what is found in chronic inflammatory products and not like in normal tissues.

There is a great difference between the tissue-elements of fibroma and those of normal connective tissue, for example.

I shall give briefly the details of my investigation of the structure of fibroma, which, when completed, will be published and illustrated elsewhere.

Concerning the structure of normal connective tissue, the following seems to be generally established and in good preparations quite demonstrable:

The ultimate connective-tissue fibrils (the

fibrillar variety) are in varying number united together to form bundles; these again occasionally unite to form larger bundles; these bundles arrange themselves at different localities in various manner, *i.e.*, parallel as in tendons, or as a lattice-work in membranes, or decussate at different angles and in all possible directions in all other localities, leaving between small spaces, these spaces being dependent for their shape and size upon the arrangement of the bundles. They communicate with one another, and thus form a system of channels throughout the whole connective-tissue system of the body. These channels contain a small amount of fluid containing *mucin*, and they are the receptaculi of the sometimes enormous quantities of serum in oedema. These same spaces or channels may also get filled with air, producing emphysema in skin and other parts of the body.*

Von Recklinghausen has shown that the spaces in the connective tissue communicate with the lymphatics, and he calls the spaces juice-channels; they act as "vasa serosa" (Orth), conducting the serum from blood-vessels to the lymphatics, and "feeding" (Tyson) the tissues.

By the nitrate of silver method of Von Recklinghausen, which is now the common property of all the laboratories of the world, it can be easily demonstrated that each of the connective-tissue bundles spoken of is surrounded by a distinct membrane composed of large flat cells. These flat, so-called endothelial cells are very thin, nucleated, and are closely united at their periphery with one another, so as to form continuous membranes or sheaths, which envelop each or several fibrillar bundles and thus at the same time form a lining for the spaces between them. Without nitrate of silver the endothelial cells cannot be seen; all that is seen are the nuclei of the cells, round or oval in shape if viewed from above, or spindle-shaped if the whole cell is seen in profile. I will not enter into further details here; this suffices to make myself now intelligible concerning some points in the histology of connective-tissue tumors, particularly fibroma.

* The subcutaneous tissue of the whole body can be filled with air, so as to produce enormous emphysematous disfiguration, by forcing air through blow-tubes at a few points or possibly even from only one point of the body below the skin. I have seen children purposely prepared in this way for beggars' purposes.

I investigated by the nitrate of silver method three specimens of fibroma: 1st, a small, hard fibroma from the finger of a girl, æt. 20, developed from the tendon; 2d, one of the size of two fists from the broad ligament of a woman, æt. 35; and 3d, an intra-uterine fibroma of the size of one fist, from a woman, æt. 40.

I might say at the outset that in the preparation of the first and third specimens I failed altogether to discover any perfect endothelial sheaths surrounding the bundles of fibres, which were so beautifully seen in a preparation of tendon made for comparison simultaneously with the fibroma specimens. In specimen second only a few perfect endothelial sheaths were visible. The microscopic picture of one of the silver preparations (from specimen No. 1) was this. The fibrils were on the average much thicker than in normal connective tissue; some running straight, others rather wavy and not quite parallel with one another, frequently decussating. Only few perfect fasciculi or bundles of fibres were seen, but most of them had not a trace of endothelial ensheathment. Some had a partial endothelial sheath in some places, and here the bundles appeared constricted. In several places were seen irregular protoplasmic masses apparently in connection with the fasciculi and proved to be partially detached endothelial cells. Between the bundles were seen several groups of young indifferent cells, resembling white blood-corpuscles. Other cells were double the size of the latter, some spindle-shaped and with prominent nuclei. The latter were seen occasionally in a state of division or were already divided. They resembled remarkably the germinating endothelial cells from serous surfaces, as described by E. Klein of London, represented by him in his *Atlas of Histology*, Plate VI.

I interpret the microscopic picture as a whole thus. The endothelial cells composing the sheaths of bundles of connective tissue have become isolated, and hence the sheaths are destroyed. The boundaries being removed, the liberated connective-tissue elements grow with great vigor. The growth is perhaps promoted yet more by the presence of the serum of the juice-channels, with which the cellular and fibrillar elements now come in direct contact, the sheaths being destroyed. The cells and fibres here, like in elephantiasis, "feed" (as Prof. Tyson would say) upon

that serum in which they are soaking. The endothelium is proliferating (germinating, *Klein*), and probably gives rise to those groups of indifferent cells which evidently form the main source of the new growth. Foerster* has pointed out that in the development of fibroma the fibres arrange themselves more or less concentrically around and develop from these islands of cells, thus giving rise to the lobulated appearance of this new growth. It is also very probable that emigrated white blood-corpuscles assist in forming those collections of cells.

What interests us at present, however, is the absence of the endothelial sheaths in the connective-tissue bundle in the fibroma, and that this feature fibroma has in common with all connective-tissue formations which owe their origin to inflammation, as will be shown directly.

I can affirm the absence of endothelial sheaths in the new-formed fibrillar connective-tissue as met with in cirrhosis of organs which invariably accompanies the proliferation of the alveolar connective tissue in such situations. It would be very desirable that other histologists would undertake research in this direction.

Cornil and Ranvier† describe the disappearance of the endothelial ensheathments in connective tissue which is the seat of inflammation. They describe the appearances as follows: "The fasciculi are smaller; less distinctly fibrillar; they do not appear to be enveloped by a special layer which limits them and which causes them to swell irregularly when acted upon by acetic acid." Cornil and Ranvier consider that the "large flat cells" are replaced by embryonic tissue.

The inflammatory process is, to my knowledge, the only factor which can disconnect or isolate endothelial or epithelial cells united together to form a certain lining or covering. Let us take, as an instance, the lung. The flat cells which form the lining of the air-vesicles are so closely united or grown together in the normal adult individual that no means at our command at present can isolate them. But in catarrhal pneumonia the inflammatory process demolishes that lining instantly, the cells which compose it "re-

* *Atlas der mikroskopischen und pathologischen Anatomie*, Leipzig, 1855.

† *A Manual of Pathological Histology*, translated by Shakespeare and Simes, Philadelphia, 1880.

turn to their embryonic state" (Stricker), they become completely isolated.

The abnormal increase in bulk of tissue in both the fibroma and the inflammatory connective-tissue products, appear to me to be due to the same cause:

1. The removal of the boundaries which keep the fibres intact, viz., the destruction of the endothelial ensheathments.

2. The proliferation of the endothelial cells of these destroyed sheaths and of the connective-tissue elements themselves, and probably with the aid of white blood-corpuscles.

If the endothelial sheaths of the connective-tissue bundles and other normal boundaries are re-established in the inflamed tissue, then it will return to its normal state, or in case of loss of substance will heal by permanent scar-tissue. The healing process was perfect.

On the other hand, the same tissue will give rise to a fibroma if this healing process was imperfect; *i.e.*, the endothelial ensheathments are not re-established, the connective-tissue elements remaining freed from any restriction proliferate on their own accord, grow above the physiological limit, and thus inflammation terminates in a tumor.

Hence, from histogenetic grounds, I would suggest that *fibromata should be classed as a product or rather as one of the terminations of inflammation.*

This is also in accord with clinical experience.

Now, is an inflammatory origin less evident in other tumors? Can there be shown any positive microscopic difference, for instance, between a mass of inflammatory granulation tissue and a sarcoma? It cannot. To my knowledge, distinguished histologists have repeatedly had sad experience in this.

If the discoveries of Classen and Woodward should prove correct, we would, to my mind, have another additional proof that cancer is only one of the terminations of inflammations. I will quote the following:

Woodward* says, "My own studies of thin sections lead me to the conclusion that the migration of white blood-corpuscles played a great rôle in the development of cancerous growths, and that at least in certain cases the cancer cylinders

were formed by the transformation of these corpuscles; which first accumulated in the lymphatic capillaries and the passages leading to them."

Classen† is even still more positive, saying that he has proven "that the cells of cancer cylinders and all the elements of cancerous growths are no other than migrated white blood-corpuscles escaped from the blood-vessels."

Though in my own research I did not succeed as yet to confirm the observations of Woodward and Classen, they are possibly correct, and I utilize them as coming from such high authority. Besides, they correspond so remarkably to what I believe to have established for fibroma.

My view of the histogenesis of fibroma holds good also for primary glandular carcinoma.

The glandilemma or basement membrane in glands (wherever such exists), upon which the epithelial cells rest, may be destroyed in precisely the same manner as the endothelial sheaths of the fibrillar bundles. This is demonstrable in carcinoma beginning to develop in a gland, or in the transformation of an adenoma into cancer. Here, as in fibroma, only an inflammatory process can accomplish this destruction of the normal boundaries. These boundaries, if not re-established after an injury by perfect healing, there is nothing to prevent the epithelial cells from travelling into surrounding connective-tissue spaces and to thus form a cancer.

I have here reference to the destruction of the endothelial boundaries which forms the basement membrane of the epithelium alone. The endothelial ensheathment of the connective-tissue alveoli remains perfect in the cancers unless it becomes inflamed.

It is not the want of resistance of the surrounding tissue (as is generally held), but simply the getting loose of the normal cells from their place of attachment, which constitutes the formation of a malignant tumor.

It is the mobility of the cells, I think, that conditions the malignancy of a tumor. Any tumor, even the most benign one, would be eminently malignant if the cells composing it could get loose and travel through the widely open paths of the system of juice-channels.

* The Structure of Cancerous Tumors. Toner Lectures, Washington, 1873.

† Ueber Cancroid der Cornea, etc., Virchow's Archiv, vol. 1., 1870.

In benign tumors the cells are more or less fixed, hence no metastasis. The endothelial basement membranes and ensheathments are, however, here also defective. The physiological boundaries which maintain the equilibrium and keep the cells in position and in harmony with one another are found absent in that tissue which gave rise to tumor-formation.

As it is not proven so far that any other pathological process besides inflammation is capable of destroying the endothelial ensheathments and basement membranes, I am driven to the conclusion that all true tumors are direct products of the inflammatory process, and that true tumors should be considered as one of the terminations of inflammation.

A NEW METHOD OF TREPHINING THE SKULL AND OTHER BONES.

BY JOHN B. ROBERTS, M.D.,

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A SHORT time ago I became cognizant of the method used by Prof. James E. Garretson for the removal of the coccyx. This he effects by uncovering the bone and grinding it away with the Bonwill surgical engine armed with a burr. A few days later, by his invitation, I saw him remove in a similar manner the right superior maxilla, which was the seat of an antral exostosis. The delicacy of manipulation, the absence of facial scarring, and the undoubted power of the engine, combined to give me a very high appreciation of its possibilities. Especially was this the case because my experience some three years ago with the so-called dental engine was very unsatisfactory in surgical operations on bone.

During Dr. Garretson's operation some one of the by-standers suggested to me that the engine might be used for trephining, and, as I had shortly before been teaching this operation to my class, I was struck with the idea. It has been heretofore suggested, I believe, that the engine might be employed to drive a trephine, and thus cut out a disk or button of bone.

My idea, however, was that, as the ordinary trephines are usually of too great diameter and cause larger openings than are required for the insertion of the elevator, it would be practicable to bore a small

hole in the skull by using in the engine a burr cut or roughened on its flat extremity.

As no patient was at hand, I utilized a cadaver for the experimental demonstration, and fractured the skull by means of a hatchet. I found that the burr called by the dental instrument-makers a fissure-burr, and which has a cut face, answered admirably. I applied it to the sound bone at the edge of the depressed fracture, and found that I could quite readily make a circular cavity in the outer table. This was carefully deepened until the vitreous table was perforated. As there was no disk to remove, and as the burr, which I kept moistened with water, dropping from a cloth, threw out all bone-dust, the depth and character of the perforation were readily watched. When the skull was thus pierced by a round orifice about one-quarter of an inch in diameter, the elevator was inserted and the depressed fragments elevated and, where loose, removed. Sharp and irregular edges were equally well trimmed smooth or cut away by the burr.

When the rapidly-rotating burr is placed in contact with soft tissues, as one's finger, it can be pressed upon with considerable firmness without abrading the surface, while osseous tissue is quickly ground away. Hence it seems as if the meninges of the brain might be touched by the burr without injury being inflicted at the time the vitreous table is perforated. In fact, I am inclined to believe that the dura mater would be pushed in front of the burr and remain practically uninjured. This can only be tested in living animals or human beings, because in the cadaver the brain does not entirely fill the cranial cavity, though the dura mater may remain attached to the inner table. The depressed fracture, moreover, usually pushes the dura mater downward, which would thus be likely to be torn off from the sound bone nearest the depression.

The ease and success with which the long bones, containing abscess cavities, could be perforated by this method are unquestioned. My experience in once breaking the handle of the ordinary trephine, while endeavoring with difficulty to bore into an abscess in the head of the tibia, makes me hail the improvement with satisfaction.

The method of trephining the skull with the surgical engine of Bonwill, which I believe to be the only one sufficiently powerful, would then be as follows. Pick out

a burr one-fourth or three-eighths of an inch in diameter, well tempered, and having a flat face deeply cut; then, fixing it in the mandrel, close up to the hand-piece, have the engine-crank turned with great rapidity. When the skin and periosteum have been dissected up, apply the burr to the sound bone nearest the *most* depressed portion of the fracture, and at first tilt the burr a little on the edge until a shallow groove has been made on one side of the proposed perforation. This prevents the burr slipping from the smooth convex cranium. Keep the burr constantly moistened by means of a wet sponge held over it and occasionally squeezed. When the perforation has been made, use the elevator as in ordinary trephining. If there is difficulty in elevating or removing the fragments, cut away with the burr the edges which cause locking. Hey's saw or bone-cutting forceps will not be required.

The ordinary burr furnished by makers of the engine is sufficient, but the face could with advantage, I think, be cut deeper. Instead of the ordinary burr the central portion of the face might be bored out, leaving then a burr that would remove a disk like the ordinary trephine does, and which might also be made conical. These changes, however, would be of doubtful advantage, though I shall probably experiment with this form of burr.

The use of the surgical engine for perforating the cranium is, as far as I know, novel, but it is very possible that others may have experimented on the cadaver or living subject and found similar results.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINICAL SERVICE OF PROFESSOR WILLIAM GOODELL, M.D., PROFESSOR OF CLINICAL GYNÆCOLOGY.

Reported by GUY HINSDALE, M.D.

A CASE OF ABDOMINAL TUMOR.

GENTLEMEN, — Our next patient comes here saying that she has been troubled by pain in both sides, and that she has a "swelling in her stomach." She thinks it is due to the change of life. She is 45 years old, and is now losing her monthlies. This function is now in what may be called the dodging period, when the menstrual flow comes and goes at

irregular intervals, and when various nervous symptoms are liable to be developed. There is at each menstrual period a turgidity of all the reproductive organs, giving rise in some cases to chronic ovaritis and ovaralgia, ovarian epilepsy or insanity, neurasthenia, and, in short, all those phenomena or lesions which can be traced to ovarian or spinal congestion, and which are embraced under the heading of pernicious menstruation. They present true nervous symptoms which often refuse to yield to every kind of treatment, proving wholly unmanageable until the climacteric has become established.

As I examine this case, I find the cervix very high up: I can just reach it. There is also a laceration upward and to the right as far as the vaginal junction. The cervix is very soft. What is the meaning of a soft cervix? What does that imply? It means that you mustn't pass the sound up. There is a possibility of pregnancy. You see, I am thinking aloud. The patient was married at forty, is now forty-five years old, has been pregnant, but never went to full term. Her last miscarriage occurred two years ago. She complains of something like heart-burn. The cervix is high, as though there were something in the womb. Here is a growth, an enlargement which reaches one or two fingers above the navel, which is too high for a pregnancy of five months, but which might occur shortly after the end of the sixth month. I am feeling to see if there is any hard body, but she is so very fat that it is not easy to recognize a definite outline. There is an elasticity about it which leads me to think that it contains fluid; but this I cannot positively determine. As my hands press the surface of the tumor, I fancy that I feel alternations of softness and hardness, which is one of the characteristics of the gravid womb. I will try to get the foetal heart-sounds; but I can hear nothing. Her nipples show a little moisture, and the follicles are enlarged; that strengthens the supposition that she is pregnant, but is not absolute proof. As I manipulate the breast this moisture increases and becomes actually milky, and the nipples become erectile. If you look carefully you will observe that the linea alba is darker than the surrounding skin. Dr. Cormack has drawn attention to this dark line, which occurs during pregnancy in the median line of the abdomen. It is constant in the latter

part of gestation, but, being the result of distention, it is associated with other abdominal tumors, and, indeed, we often see a darker line.

Another point is of value in the diagnosis: the change of life does not come in an abrupt way. Menstruation, instead of stopping at once, becomes irregular; it dodges. The woman at the approach of this period may not menstruate for six weeks, after which it comes on as before; then she will skip an entire month. Disorders and perturbations of one kind or another characterize this change, and often continue for two or three years or more.

But this tumor extends above the navel, and it is elastic: that strengthens the idea that she is pregnant. Then we have the soft, very soft cervix. When the cervix is as hard as the tip of your nose, you may safely conclude that the uterus is empty; but when it is as soft as your lip, it should always make you cautious. She does not have morning sickness, but complains of heart-burn. She has to get up at night to pass her water; she says she did not have this trouble before Christmas. Women, when they are pregnant, will have to get up once or twice in the night to pass their water, and this sometimes has to be done more frequently towards the end of gestation. I will pass one finger in front of the cervix to see if I can feel any hard body floating in a fluid and get *ballotement*. I cannot get the characteristic feeling; and yet the tumor is a suspicious one. This woman never had a child at full term, and what at first I took to be a laceration I should say is only the softened lips of the cervix. This woman's color is good, and we can exclude malignant disease: I am, therefore, disposed to consider her pregnant. It will be safer to do so, and to await developments.

The diagnosis of pregnancy is not always an easy matter. In many cases it is difficult to avoid being deceived. Designing women will come to your office hoping to mislead you because you are young. They will say or do everything they can to lead you to undertake an examination or make some application that will induce abortion. Remember also that pregnancy in the unmarried is an accident that will happen in all classes of society. As a general thing, the family physician is misled, and he is misled because he is intimately acquainted with all

the members of the family and cannot believe that any of them could be led astray any sooner than one of his own family.

To illustrate this point, let me tell you a story. A good many years ago, I won't say how many, I was called in by an elderly physician to examine a tumor in a young lady. It was steadily growing, and I was asked to decide what it was, and whether it could be removed by an operation. The house was so handsome, the surroundings so fine, and the mother and daughter so elegantly attired, that I could not for a moment entertain the idea that the girl was pregnant. So I was completely thrown off the scent, and when we went down to consult over the case we decided that it was some abdominal tumor of doubtful nature, and, if I remember correctly, we did what many physicians often do when in doubt,—but which you will not, of course, do,—we prescribed minute doses of calomel. While on my way home, when I was no longer under the glamour of laces, velvet carpets, costly furniture, and a brown-stone front, I began to rehearse the symptoms in cold blood. "What means," I said to myself, "a vagina so distended that I introduced two fingers into it? What means the absence of a hymen? Why are her lips red and her general health so good?" I felt so certain now that she was pregnant that I called myself all manner of names for my stupidity. That evening I hastened to the office of the physician to make a clean breast of my suspicions, and, after reciting all the above symptoms, I said, deliberately, "Doctor, that girl is pregnant!" He instantly jumped up from his chair as if he had been insulted, and said, "Impossible! impossible! why, I delivered her mother of that girl!" What he implied by these words was, "I brought that girl into the world: I have known her too well to believe it possible for her to have been led astray." He was too much moved and too deeply offended to listen to reason: so I was not slow to take my departure.

The upshot of the affair was that the girl was shortly afterwards sent away from her home to be secretly delivered, that my friend the doctor, up to the day of his death, never called me again in consultation, and that the various members of the family studiously avoided recognizing me in the street. One does not burn one's fingers twice in the same way, and since

that time I have never been caught in a like scrape.

Knowing these facts as well as I do, let me end this the last lecture of the spring course with this note of warning: never pass the sound till you are sure that the womb is empty.

TRANSLATIONS.

HÆMOGLOBINURIA FROM NAPHTHOL.—Naphthol, which has recently been suggested as a remedy in certain diseases of the skin, has been found by A. Neisser (*Cbl. f. Med.*, No. 30, 1881) to have a toxic effect when introduced into the blood in considerable quantity. Neisser has shown by experiments upon dogs and rabbits that large doses of this substance give rise to hæmoglobinuria. Rabbits weighing one thousand grammes died after the subcutaneous injection of one gramme of naphthol in concentrated solution in warm oil. Dogs of four thousand five hundred grammes died after doses of 1.5 gramme had been administered. Death occurred in two and one-half to twelve hours, following salivation and restlessness in the case of the dogs and convulsions in the case of the rabbits. The fact was observed here, as in the case of pyrogallie acid, that dogs could not bear as large doses as rabbits. This was in curious contrast to the fact that the human organism is more susceptible to pyrogallie acid. Neisser therefore warns against the excessive and too extensive use of this drug. Careful examination of the urine should be made from time to time during the administration of a course of naphthol.

CHRYSAROBIN.—In the last number of the *Times* we gave an abstract of Israel's investigations on the nature and local influence of chrysarobin. The latter part of his article on this subject is devoted to a consideration of the influence of this drug upon the economy generally. It is known that such substances as rhubarb and senna, which contain chrysophanic acid, give rise, when taken, to a yellow discoloration of the urine, which changes to cherry red on the addition of alkali or when the urine goes on to decomposition. An examination of the urine, therefore, will show whether or not the remedy has been absorbed in any given case, and what its transformations in the body have been.

Thompson has shown that when chrysarobin is given internally in pill form or in water, followed by alkalies to promote absorption, it gives rise to vomiting and diarrhoea. Other observers failed to find any effect, either when the remedy was given internally or when rubbed into the skin. Israel, however, has instituted independent researches in this direction. He gave pure chrysarobin to animals and found chrysophanic acid in urine and fæces. Blood was also observed in the urine, due, Israel thinks, to the irritative effect of a certain amount of unaltered chrysarobin which was excreted with the chrysophanic acid. He thinks that in this respect chrysarobin is irritating to the mucous membranes, just as cantharides is. In order to investigate the action of the remedy when applied externally, Israel rubbed into the integument covering the belly of dogs, previously shaven, an ointment containing one part of chrysarobin to fifteen of fat, covering the part then with an impermeable dressing. Investigation of the urine on the third day showed chrysophanic acid, and consequently proved that chrysarobin can be absorbed through the skin.

In conclusion, Israel says, upon the ground of frequently-observed albuminuria following the inunction of chrysarobin, that this circumstance must be borne in mind when administering the remedy. Attention does not appear to have been drawn thus far to this occurrence; but should it be found that albuminuria is at all common after the application of chrysarobin, the occurrence must be guarded against.—*Virchow's Archiv*, Bd. lxxxv. p. 124.

CRITICAL EXAMINATION OF SOME WHOOPING-COUGH REMEDIES.—Prof. Otto Heubner (*Deutsche Med. Wochens.*, 1881, p. 541; from *Jour. f. Kinderkr.*) has made an investigation of the five most highly recommended remedies in whooping-cough, namely, bromide of potassium, quinine, hydrate of chloral, salicylic acid, and belladonna,—with a view to ascertaining their exact therapeutic value. Heubner prefaces his paper with the remark that it is much more timely to make a thorough examination of the effect and value of such remedies as we now possess than to go hunting after new specifics. He selected whooping-cough because it is easy to diagnose with certainty. In addition to this, the cases to be studied were taken from patients in the same neighborhood and social posi-

tion, from uncomplicated cases, and from all the cases as they presented themselves at his clinic. The remedies used, except belladonna, were such as are apt to be obtained of uniform character, thus eliminating one element of uncertainty. The action of the remedies was studied in three directions,—(a) in relation to the intensity of the individual attacks, (b) in relation to the frequency of the attacks within a given period of time, and (c) in relation to the entire duration of the disease. Six weeks was taken as the average duration of the disease; and if the medicine failed to shorten this the result was counted negative, while if the duration of the disease was shortened it was counted positive. Forty-four uncomplicated cases of whooping-cough were studied.

The drugs were given as follows. Bromide of potassium in doses of 0.5 to 3.0 grammes in watery solution per diem. Quinine was given in solution or in powder in the dose of 0.3 gramme per diem. Chloral hydrate was given in two cases in broken doses, in the other cases in enema, in the dose of 0.3 to 1 gramme per diem. Salicylic acid was given in one case in the form of salicylate of sodium, inwardly; in the other cases it was inhaled as spray in a one-third- to one-half-per-cent. solution, 0.1 to 0.15 gramme of salicylic acid being inhaled at each sitting. Belladonna was usually given as the powdered extract in doses of 0.015 to 0.06 gramme per diem.

The results of Heubner's investigations are given in the following table.

INFLUENCE ON THE ATTACKS.		INFLUENCE IN SHORTENING THE DISEASE.			
	Positive.		Positive.		
	Negative.		Negative.		
Salicyl. inhal	10	7	Belladonna.....	3	5
Chloral.....	6	4	Quinine.....	3	8
Belladonna.....	4	4	Chloral.....	2	8
Quinine.....	5	6	Salicylic.....	2	15
Bromid. potas.....	9	14	Bromid. potas.....	0	23

From the above table of cases it appears that salicylic acid is about eight times as likely to be useful in diminishing the frequency and severity of the attacks as is bromide of potassium. Salicylic-acid inhalations are therefore the best means of shortening and diminishing the attacks, while belladonna and quinine have the best effect in abbreviating the duration of the

disease. It must be remembered, however, that the best of these remedies fail to diminish the number of attacks by one-half, and any new remedy which may be brought forward should be carefully put to the proof by these methods.

HOT WATER IN THE TREATMENT OF HEMORRHOIDS.—Landowski (*Cbl. f. Chir.*, 1881, No. 38; from *Jour. de Thérap.*) suggests hot sitz-baths in bleeding piles, together with enemata of hot water. These not only check the bleeding, but diminish the size of the turgescient tumors to a marked degree. In ordinary hemorrhoids three sitz baths per diem may be employed. In bleeding piles the baths should be more frequent, and the enemata should be given as hot as the patient can bear (usually about 104°).

EFFERVESCING DRAUGHT OF BROMIDE OF POTASSIUM IN VOMITING.—Dr. Chéron (*La France Médicale*, vol. ii., 1881, p. 464), having tried various remedies in that form of vomiting which accompanies ovaro-uterine complaints in women, finally settled upon the following:

- No. 1. R Potass. bicarb., 3ss;
Aque, f3ij;
Potassii bromidi, 3ss. M.
No. 2. R Acidi citrici, 3j;
Aque, f3iv;
Syrupi simplicis, f3x. M.

Pour a teaspoonful of No. 1 into a glass, and add a tablespoonful of No. 2; stir them together, and drink while effervescing. The dose may be repeated every hour or every half-hour, but the amounts given above in Nos. 1 and 2 represent the total quantity to be taken in twenty-four hours.

LINIMENT IN PROLAPSE OF THE UTERUS.

—In prolapse of the uterus, M. Chéron, of the St. Lazare Hospital, besides the application of a pessary to keep the organs in position, prescribes the following liniment in order to ease the neuralgic pains from which many patients suffer:—chloroform, three drachms; ether, four drachms; camphorated spirits, three ounces. These frictions on the lumbosacral region are attended with the best effects. Also to restore the tone to the relaxed ligaments he gives—bromide of potassium, a drachm and a half; tincture of iodine, fifteen drops; tincture of aconite, twenty-four drops; syrup of tolu, ten ounces. A tablespoonful before each repast.—*Medical Press and Circular*.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, DECEMBER 31, 1881.

EDITORIAL.

THOROUGHNESS.

ONE of the needs of the medical student, not less of the practitioner, is *thoroughness* in minor cases. The medical student indifferently turns his back upon the clinical treatment of a felon or an abscess. A headache, constipation, lassitude, as independent complaints, meet with equal indifference from too many physicians.

The student will neglect everything else and go any distance to witness an amputation at the hip-joint; but if the surgeon present a broken finger, or if the physician bring forward a dyspeptic patient, the student, calmly superior to such frivolities, directs his mind to the consideration of a cigarette or idle gossip.

A patient complains to his physician of a headache or some equally slight and common ailment. "Ah!" says the doctor, and scribbles off a prescription, with the remark, "Take this, and by to-morrow you will be all right." Perhaps. The chances, however, are that on the morrow the ailment remains unchanged. Another visit follows, and on this occasion the doctor, being obliged to think, asks a question or two, and changes the prescription, with, it may be, a like result. At his third visit the client, whose patience and pocket alike begin to suffer, suggests (and *could* there be anything more embarrassing?) that the doctor has not discovered the *cause* of the trouble. This puts the physician on his mental muscle, if he have any; and now begins the proper examination of the case. A skilful cross-questioning reveals the error which has caused the patient's ailment, and this time he receives not only the needful and proper advice, but, if he now

require a prescription, the remedy which will help him.

Dare any one say, unless this physician abandon his routinism and his automatism in minor cases, that he will not in time win a reputation of indifference to small matters? He may be strong in the treatment of some dread malady to which he has given profound thought and in which he is deeply interested. This will give him the name of being the man for diphtheria or typhoid or pneumonia, but one patient will be sure to say to another, "Don't go to Dr. X. Y. Z., with little troubles; he is not interested in anything less than a case of life or death." Nevertheless, Dr. X. Y. Z. ought to know that just as the "mosquito troubles" of life are those which mostly annoy the mind, so do petty aches and small distresses form the bulk of the complaints from which the patients of the general practitioner ask relief. The doctor who is the most successful in the treatment of minor ailments will, it is true, be apt to be equally reliable in cases of greater import; but the truth is that his management of light cases is what wins his patients' confidence.

There can be no greater relief to the mind of a man who is the victim of some slight (to him grievous) but obstinate affection, and who has vainly sought relief at the hands of a dozen doctors who follow the automaton plan, than the keen, wide-awake interest and searching questions of the thirteenth doctor. At last he has found a physician who is interested in his case, and he at once feels that he will be helped. As he contrasts this thorough management with the half-hearted, half-asleep method of the foregoing doctors, he sees *one* explanation of their failure to give him relief. The new physician will be sure to keep him, and through him will win other patients.

The student who neglects the common and oft-recurring cases in which diagnosis seems to him a simple thing and, more-

over, the feature of most importance, will, when he has to deal with such cases unaided, find that he is weak just where he should be strong. He will discover that indifference to opportunity now gone by endangers his chances to make a reputation, whereas the capital operations to which he gave some attention do not come to him, or, if they do, it is in such paucity of number that he trembles for his financial future. The best student is he who makes himself familiar with minor matters, with small details in diagnosis and treatment. The larger features of cases soon become easily evident. It is the trifles which he needs to know; it is, too, the simple complaints which he should master. "Trifles make perfection," not only in artists, but in physicians as well. Neglect or ignorance of them has brought many a doctor to sore grief.

The medical man who wishes to be truly successful will, beginning in his student days, make the most petty detail a large factor in the treatment even of the simplest case. Every patient has a right to the best his physician can give him; but, unfortunately, a lack of *thoroughness* is one of the largely-prevailing causes of reproach to the profession. This should not be. It need not be.

M. TOUSSAINT, of France, claims that he has found the micro-organism which produces tuberculosis, and that he has not only succeeded in isolating the plant, but in producing with it, after culture, the disease. Until his experiments are published in full, destructive criticism may well be suppressed, but incredulity may very properly call attention to the established fact that it is possible to produce tuberculosis in some of the lower animals by placing clean sand, fragments of wood, and other inert, inorganic, or non-living materials in the muscle.

LEADING ARTICLES.

COLOR-BLINDNESS.

THAT this anomaly has long existed we cannot doubt; but at first sight it does seem curious that no actual determination of its presence was methodically made until within the past few years; but if we consider the unstable and contradictory theories of colors, optics, and physiology which have been promulgated by such men as Wünsch, Young, Goethe, Maxwell, Helmholtz, and Hering, the petty jealousies, the endeavors and claims for priority, and the search for hypotheses, all giving rise to half-fledged theory,—if we consider the fact that, at the time these were being solved, there arose an instrument which, sphinx-like, propounded new riddles* and revealed a new world,—we can easily see why this so-called medical curiosity must of necessity have remained unstudied and forgotten.

The earliest mention of a possible case of color-blindness was that by Dr. Tuberville, referred to in a letter to the Royal Society, London, August 4, 1684, in which he says, "A maid two-and-twenty years old, came to me from Banbury, who could see very well, but no color besides black and white," etc.†

The first authentic account is that by a Mr. Huddart, in 1777 (vol. lxvii., *Philosoph. Trans.*), who speaks of an intelligent shoemaker who, at about the age of four years, had his attention first called to his infirmity by his being unable to recognize a peculiarity which others attached to a certain stocking in calling it red. Later, he observed that he was unable to differentiate red cherries from green leaves, except by form. It was afterwards found by scientific investigation that he was almost wholly void of color-sense.

Many instances follow, especially the well-known case of John Dalton, of which Dr. Oliver Wendell Holmes might aptly say, "it has been clattering down the highway of fame like a dog with a tin kettle hanging to its tail," "Daltonism:" thanks to Dr. Jeffries for helping to unfasten the impediment, and making use of a better but still imperfect term,—color-blindness.

Although many theories of color-sense

* Dr. A. Geissler, *Schmidt's Jahrb.*, 1881, Bd. 191, Hft. 1.

† Quoted in "Color-Blindness," etc. By B. Joy Jeffries, 1879, pp. 308.

have been advanced since the remotest antiquity,* yet not a single one has been or can be fully accepted.

Briefly stating a few of the most important—such as that of Wundt,† of a chemical chromatic and achromatic excitation; that of Lederer,‡ of differences of actions in the excitation of the rods and cones; the curious fancy of Professor Delbœuf,§ of the retina being a vibrating membrane set in motion corresponding to the velocity of impinging wave-lengths; the wonderfully ingenious theory|| of Krenchel's movable color-molecules situated in the cerebral color-centres, which ignores every other part of the visual apparatus as in any way capable of differentiation—we pass to those of Young-Helmholtz, and Hering. The first, the so-called three-fibre theory, was brought forward by Thomas Young,¶ about the year 1800; it consisted in the supposition that each sensitive nerve-filament may consist of three portions, one for each principal color, and so acted on, either singly or in combination, as to produce the pure colors with their many tones and tints. Although Maxwell** amplified this already modified theory, it had remained for Helmholtz, in 1852, to alter the number of spectrum colors,†† but afterwards to suppose that every color seen is produced by the simultaneous excitation of all the three nerve-filaments in different degrees,—this being illustrated by means of a chart.

Both Rose‡‡ and Fick§§ bring serious objections against this theory.

The second is that of Hering.|||| First, assuming that black is a sensation and not the negation of light, he produces three paired primary sensations (blue and yellow, green and red, black and white), all being the results of an action of a "visual substance" situated in the retina; each paired sensation consisting in the loss or gain of a certain percentage of its part of the

visual substance,—a dissimilative and an assimilative action.

If we were to accept and endeavor to use any of these theories in the explanation of color-blindness, we would find many discrepancies; but, as no better hypotheses of color-vision have been offered than those last named, we are obliged to conciliate, as much as possible, the theory with the abnormal condition, until such time as microscopic study of histological and pathological conditions of the cerebral centres and visual apparatus, together with proper interpretation of subjective differences of color, shall throw new light on the subject and thus substitute fact for supposition.

We are now brought to the question, What does a color-blind see? If we should ask a red-blind person to look at a piece of red worsted or a stick of red sealing-wax, what will he tell us? He says he notices a peculiar difference in its *shade* which characterizes it from all other sensations, and his description of it will depend entirely upon the extent and position of his visible color-spectrum. It must be remembered that he has no language for red as we see it: although he may learn by association to call a red object by its proper color-name, yet he is unable to recognize that peculiarity which to a normal eye so strongly contrasts it with the other colors; the same being true of all the other forms of color-blindness. Geissler says,¶¶ for the red-blind the landscape has the character of autumn. A sunset or the beauty of our red flowers, with their various tones of blue and violet, he is perfectly indifferent to; but his fine sense for gray-white-blue shadows gives to glacial views a greater charm than to the normal eye.

Why should he be pitied? He has never known the color. It is to him what an unknown sense might be to us: we are contented, not knowing better, and he the same. Again, his bichromatic world, with its innumerable shades, may be a greater source of delight than our recognition of another color sensation.

Turning to the practical side of the question, we find that George Wilson, of Scotland, was the first to recognize the importance of its discovery in those who are placed in such positions as to imperil human life by the improper interpretation

* Compare Helmholtz, "Handb. d. Physiol. Optik," 1867, pp. 267-272, and Goethe, "Zur Farbenlehre," 1810.

† Wundt, "Kudiments of Physiologic Psychology," 1880, Bd. 1, p. 454.

‡ Kosmos, 1870, Bd. 4, pp. 438-457.

§ Schmidt's Jahrb., 1881, Nr. 7, p. 84.

|| Arch. f. Ophth., 1880, xxvi. 1, pp. 91-102. (Ueber die Hypothesen von Grundfarben.)

¶ Philosoph. Trans. Royal Soc., 1802, p. 12. (Bakerian Lecture—On the Theory of Light and Colours.)

** Philosoph. Trans. Royal Soc., 1860, vol. x. pp. 404 and 484.

†† See Helmholtz, Handb. d. Physiol. Optik, 1867.

‡‡ Arch. f. Ophth., 1860, vii. 2, pp. 73-108 (Ueber stehende Farbentäuschungen).

§§ Handb. d. Physiol., von Dr. L. Hermann, iii. 1, p. 100.

¶¶ Sitz.-Ber. d. K. Akad. d. Wiss., 1874 (quoted in Schmidt's Jahrb., 1881, Bd. 101, Hft. 1, p. 82).

¶¶ Schmidt's Jahrb., 1881, September, p. 101.

of colored signals.* By his examinations he induced but one railway company to test all their porters for color-blindness.

Although Dr. Favre, of Lyons, periodically examined all its railroad employés from the year 1855 to 1877, also calling the attention of the "Conseil de Santé des Armées" and the medical societies of Lyons and Marseilles to its significance and importance of study, it remained† for an accident on a Swedish railroad, which was merely supposed, without direct substantiation, to have been caused by the misinterpretation of the usual signals, to become the impetus for a new onset against the color-blind.

On the night of November 15, 1875, a collision between two express-trains occurred at Lagerlunda, in Ostrogothia, in which one passenger and eight employés were killed, and one passenger and one employé wounded. Upon inquiry, Holmgren says he felt justified in the assertion that the accident was mainly caused by color-blindness. Geissler says‡ that Holmgren does not give any ground for this assertion, and also that the Swedish Report of Railways, which appeared one year later, did not assign any cause to the accident.§ Anyway, this occurrence was felt throughout Europe, and strenuous efforts were everywhere made to avoid a second catastrophe. Statistics were compiled, theories sought, and methods of determination augmented, until the German- and French-speaking medical world overflowed with material. State railroad commissions and individual corporations were asked to aid; the government navies and mercantile marine were induced to give support; whilst valuable tables were gotten from the schools and well-trained military. All these helped to forward the movement and give it a substantial foundation, thus placing the subject upon a scientific basis.

The question now arose, that having a certain percentage of color-blind among those employed, which of the two courses

to pursue,—change the entire method of signalling, or use none but the normal-eyed.

Upon railroads, the exhibition of white light indicates "clear track;" green, "slow up;" and red, "track closed." Thus we see that the great danger is in mistaking either red or green for white. Suppose a heavy fog, snow, or rain-storm should partially obscure the signals, the red-green blind, not seeing these colors as others perceive them (he depending upon intensity), would possibly think his track clear and "go ahead" at full speed.

In the marine service the danger is increased. All vessels carry a green light on the starboard side, and a red light on the port, so boxed as to be seen forward and amidships; accompanied by a low white forelight, and sometimes a high white aft-light. Hence by comparison we can easily distinguish a vessel's course. If the conditions of a heavy fog, snow, or rain-storm were to exist, we can see how a color-blind, judging these important colors by their intensities alone during the best of weather, is here placed in a position almost amounting to the entire absence of signal.

Can these signals be so changed or modified as to throw out the possibility of a mistake by a color-blind? Both observation and experiment have brought the universal dictum, There is no better method. Thus admitting the maintenance of this form of signalling, we must of necessity obtain eyes capable of accurately perceiving and differentiating the colors used. Again, if it be true that, as Jeffries asserts, "one male in twenty-five is color-blind in a greater or less degree," and "of this defect they may even themselves be wholly unconscious," there should be such statutes established as would eliminate all eyes with faulty color-perception from places requiring perfect color-sense.

There are many occupations open to the color-blind, and even a few where his infirmity would serve as an actual advantage,—in photography and lithography, woodcut, steel- and copper-plate engraving, and printing,—in all of these, where there is the want of an organ able to accurately differentiate between the many shades. Why could not a color-blind artist limit his productions to winter landscapes, lofty mountain-scenery, studies in grays, thus obtaining wonderful and almost life-like

* The Month. Jour. of Med. Sci., 1853, vol. xvii. pp. 773 and 194, and 1854, vol. xviii. pp. 30, 309, and 412.

† Frommüller, in 1863 (Schmidt's Jahrb., cxxiii. p. 213), hinted at the importance of normal color-sense for the recognition of signals. Besides several other French and German notices.

‡ Schmidt's Jahrb., 1881, Bd. 191, nr. 7, p. 106.

§ It may be interesting to note that Dr. Gintl, Central Inspector of the Lemberg-Czernowitz-Jassy Road at Vienna, a man of vast experience and knowledge in railroad statistics, is made to say that only a single accident traceable to faulty color-sense was known to him, this being on a Finland railroad between Helsingfors and Tawastehus in July, 1876, caused by a color-blind switch-tender who showed a green instead of a red light.

fac-similes of nature? Why need he despair and complain, when such a field of study and pleasure is thrown open to him?—a character of work in which, by necessity, he must surpass all others who do not possess this now properly termed, to him, *an advantage*. CHARLES A. OLIVER.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, OCTOBER 27, 1881.

The PRESIDENT, DR. S. W. GROSS, in the chair.

DISCUSSION OF DR. FORMAD'S PAPER ON "THE ETIOLOGY OF TUMORS."

DR. S. W. GROSS said that the main propositions propounded by Dr. Formad were, first, that all tumors are the products of the inflammatory process, and, secondly, that in the development of tumors there is a destruction of normal boundaries. Gumma and tubercle are regarded by the author as tumors; but Dr. Gross thought that the term should not be applied to the temporary products of specific inflammations, but that it should be restricted to permanent additions to the normal tissues. Dermoid cysts ought certainly to be included, as should also angioma and lymphangioma. The former naturally comes under the classification of cystic growths, while the latter—in regard to the causation of which Dr. Formad confesses that he has strained a point—are not merely congenital enlargements of pre-existing vessels, but are composed partly of newly-formed vessels, and should, therefore, be retained among the neoplasms. While it is true that in carcinoma of the breast the membrana limitans, or glandilemma, of the acini and ducts is destroyed, it is equally true that it remains intact in adenoma of that organ: so that, in the formation of tumors, normal boundaries are by no means always destroyed. Dr. Gross was convinced that inflammation, or a process nearly related to it, plays an important part in the etiology of many tumors, but he thought that Dr. Formad was too exclusive in his theory. He, moreover, believed that Dr. Formad was too sweeping in his assertion that inoculation with the juice of neoplasms was incapable of begetting similar growths. Dr. Formad, indeed, quotes several experiments which disprove his own positive assertions; and Dr. Gross related the following cases, which he thought supported the doctrine of the inoculability of tumor-juices.

The first case shows that sarcoma may be transmitted to man from an animal, and the second and third demonstrate infection in the same individual other than by metastasis.

Case I.—An ox was affected with a subcutaneous tumor behind the scapula, which proved, on removal, to be a medullary sarcoma. A few days before the operation the owner made an incision into the swelling on account of pseudo-fluctuation, and there was a sanious discharge for some days. The wife, æt. 23 years, was in the habit of cleansing the part, and had at the time a small wound on the outer side of the fourth finger of the right hand. In a few days a small warty excrescence was noticed on the finger, which soon became the seat of burning pain, and attained a diameter of fifteen millimetres in a month. It was covered by a whitish-gray pellicle, and Dr. Kuhn, of Niederbronn, found it to be a medullary sarcoma. (*Magazin für die Gesamte Thierheilkunde*, 1862, p. 328.)

Cases II. and III.—Dr. Reinecke, of Hamburg, has recorded two examples of the inoculation of the canal formed in tapping the abdomen in carcinomatous peritonitis. In both the primary disease was cancer of the ovary, with secondary affection of the mesenteric glands and the peritoneum, resulting in ascites, for which paracentesis was performed, five times in the first case and twice in the second. In both instances cancerous nodules appeared in the track left by the trocar, which, on post-mortem inspection, were not found to be continuous with the carcinomatous peritoneum, but separated from it by a layer of sound tissue. (*Virchow's Archiv*, Bd. l.)

Dr. TYSON thought that whatever else might be disputable as to Dr. Formad's view of the etiology of tumors, he was correct in saying that there were more facts in support of the inflammatory view than could be adduced by the advocates of other theories. This much he was willing to concede, but still thought the proposition not proven. The dyscrasia theory has been practically disproved by Virchow. The spontaneous theory has some points in its favor, and it cannot be *disproved*, although, on the other hand, it has fewer facts in its favor than has the inflammatory view. Cohnheim's theory has nothing in its favor beyond the occurrence of rhabdomyomata, dermoid cysts, angiomas, and lymphangiomas, etc., which are allied congenital growths. The inflammatory view has two sets of facts in its support,—viz., the occasional operation of causes which are identical with those which produce inflammation, and the histological resemblance presented by certain tumors, as fibromata, to the products of inflammation as seen in cicatrices, and, if Dr. Formad's last observation is correct, the further histological similarity as to the absence of the limitary endothelial membrane surrounding the connective-tissue bundles. Dr. Tyson agreed with Woodward and others in thinking that the time had not yet come for a satisfactory determination of the etiology of tumors. Certain facts adduced by Dr. Formad have not the weight that he sup-

poses,—viz., the want of permanence of tumors and the persistence of inflammatory products. The instances of both related are but exceptions to the rule. On the other hand, however close may be the resemblance of the histological elements of some tumors to those of inflammation, there are many others in which no such resemblance exists; such is the fact with regard to the carcinomata and many histoid tumors, as the chondroma and osteoma particularly. The attempt, however partially successful, is nowhere paralleled in inflammatory processes.

As to the position to be accorded to such formations as angioma, lymphangioma, and dermoid cysts, Dr. Tyson fully agreed with Dr. Formad that, accurately speaking, they have no place among tumors. We continue to place them there rather from force of habit than for any scientific reason. Only in one particular—their correspondence with the etymological definition of "tumor," which means literally a "swelling"—do they comport with the correct notion of tumor.

Dr. F. P. HENRY said that he could not accept the theory of the inflammatory origin of tumors except in the general sense that they, as well as inflammatory products, are the result of perversions of nutrition. Its acceptance would necessitate a change in our views regarding the inflammatory process, compelling us to speak of a fibromatous, a lipomatous, an enchondromatous, and other hitherto unheard-of forms of inflammation.

While facts such as those mentioned by Dr. Formad furnished strong evidence in favor of the inflammatory origin of tumors, it should not be overlooked that there are at least equally strong facts opposed to this theory. Chief among these were the extraordinary frequency of inflammation and the comparatively extreme rarity of tumors. If a direct causal connection existed between inflammation and tumors, the latter would be more frequent. Dr. Formad had quoted the statement of a United States military surgeon that certain tribes of Indians enjoy an almost complete immunity from tumors, and there is no doubt whatever that the mode of life of these same Indians must render them peculiarly subject to inflammatory affections.

Prof. TYSON had referred, by way of illustrating a point in favor of the inflammatory theory, to the likeness presented by fibroma to a mature cicatrix, and that presented by sarcoma to granulation tissue. These are mere coincidences. To make this illustration of value it should be proved that fibroma originates as sarcoma, which, it is scarcely necessary to say, cannot be done.

Dr. HENRY acknowledged the pleasure and profit he had derived from Dr. Formad's pamphlet, and expressed his belief that it would be regarded as a standard work of reference by those interested in the subject of the etiology of tumors.

Dr. NANCREDE said that in reading Dr. Formad's valuable paper his attention had been arrested by certain statements from which he could not but feel compelled to dissent. According to the commonly-accepted view of the process of ossification, the discovery of islets of cartilage in adult bones is precisely what one would expect, especially when we know that traces of chondrogen are found in analyses of mature portions of the skeleton. Instead of being "misplaced germs," they are merely remains of the calcified foetal cartilage situated at the points of mutual intersection of the periosteal ingrowths, which finally substitute all except traces of the foetal structure. Even accepting Cornil and Ranvier's view,—which the speaker thought was, after all, reconcilable with the observations of other authors,—the "misplaced-germ" theory was utterly untenable. Dr. Nancrede thought that Dr. Formad had misunderstood his views as set forth in the quotation from his paper, as he would rank himself among the "inflammatory" as well as the "spontaneous" theorists. The speaker then gave a *résumé* of his own views, supporting them by certain positively ascertained facts as to the condition of the mammary gland at various ages, the effect of varying blood-supply to it and other organs, etc. He then stated that he considered Dr. Formad's views were incorrect as to "natural healing," or the reverse in its causative relation to morbid growths. Dr. Nancrede propounded the following: that when the irritant *and* the condition of the tissues were so related that the proliferation of cells was such as to keep pace with a sufficient blood-supply to admit of their development into tissue, normal healing occurred. If this proper relation failed to obtain, suppuration, caseation, or, perhaps, under certain circumstances, various morbid growths, would result. The speaker then mentioned certain facts which could be actually proven as to the relative atrophy of the connective tissue of the lip, the effect of continuous local irritation on the development of epithelioma, certain well-attested physiological facts, and contended that the missing links in his chain of, not reasoning, but facts, were practically demonstrable. He therefore repudiated Dr. Formad's dictum that all views but the inflammatory were mere theories,—"*that where nothing is proved there is nothing to disprove*,"—and quoted from the lecturer's paper on page 46, where he contended that the conclusions were *purely* theoretical and not logically warranted. Dr. Nancrede then endeavored to show that the failure of the connective-tissue bundles in rehabilitating themselves with their endothelial investment, if confirmed, and specially if demonstrated as a weakening of the connective-tissue barrier against epithelial ingrowths, was merely due to want of equilibrium between the blood-supply of the two tissues.

Dr. CHAS. K. MILLS said that he wished to put on record, in connection with Dr. Formad's valuable paper, a few notes on ten cases of brain tumor in which the post-mortem examinations had been made by him. These were cases in which close inquiries were made as to probable causation. In the majority of them, as will be seen, a history of traumatism was given. The notes were with reference to the history and the nature of the growths, as follows.

Case I.—Fall from high door-step, striking head. Fibroma.

Case II.—Wounded in the head by glancing bullet. Gumma.

Case III.—History of blows on the head and of syphilis. Gumma.

Case IV.—History of blows on the head and of syphilis. Gumma; also softening and abscess.

Case V.—Kicked by horse on the head. Fibroma.

Case VI.—Thrown from a horse and kicked on the head. Two growths: fibroma and gumma.

Case VII.—History of syphilis. Gumma.

Case VIII.—No history. Glioma.

Case IX.— " " "

Case X.— " " Carcinoma.

Dr. E. O. SHAKESPEARE felt that he could not allow the debate to close without expressing his high appreciation of the value, to the American physician, of the labor Dr. Formad had so successfully and learnedly performed in collating from the literature of the languages of the civilized world almost all of importance that has been thought and performed by distinguished men while attempting to elucidate the cause of tumors, and in classifying and abstracting, briefly, clearly, and forcibly, the various opinions of investigators. He had listened, much interested, while the lecturer with great ability and ingenuity proceeded to unfold and support his own belief concerning the etiology of tumors, and he had given close attention to the progress of the subsequent debate. He confessed that he had made no great study of the subject in question, and therefore did not feel entitled to entertain or express any very positive opinions; yet, during the course of the reading of the paper and of the discussion which had followed it, he had become more and more convinced of the necessity of exercising great caution in the acceptance of assumptions which may have little for their justification beyond a quasi-sequential order of appearance of certain phenomena, which is often, but by no means always, recognized in the history of tumors. He very much doubted the possibility, in the present state of our knowledge, of proving that inflammation either was or was not the essential cause of tumors. Certainly the lecturer, as well as other experienced investigators, must be credited when he affirms that in the majority of

cases of tumor in which an adequate history has been recorded the growth has been preceded by a local inflammation or an injury. And yet even in these cases (supposing, for the sake of argument, there were no other) what right has any one to assume that the previous inflammation has acted as any other than a simple exciting cause? and who can rationally declare the tumor to be one of the natural terminations of the inflammation?

If the lecturer thinks to have discovered a general law concerning the etiology of tumors, let him and those who seem inclined to accept his hypothesis for one moment consider its application to syphilitic and tuberculous growths.

Dr. Mills has related, in the course of the debate, a number of cases of brain tumor, the histories of which showed that they followed a severe blow or other traumatism. In some instances the tumor proved to be sarcomatous, in others tuberculous, in others gummatous. Dr. Shakespeare referred to these particular cases because Dr. Mills had related them as perhaps offering some support to the hypothesis advanced in the paper, and had incidentally referred to him as personally cognizant of several of them. These cases are no more, perhaps no less, typical than others of that large class from which the essay has been made to deduce the general law enunciated this evening.

Will the lecturer take the position (seemingly absurd in the light of our present knowledge of syphilis and tuberculosis) that the tuberculous and the syphilitic tumors, no less than the sarcomata, are simply the natural terminations of an ordinary inflammation established by a traumatism? Or will he rather prefer to further curtail the list of tumors for the purposes of his theory, and erase the names of tubercle and gumma?

If the latter horn of the dilemma be elected, he would suggest the propriety of placing true carcinoma in a category very near to that of tubercle and gumma, for there are very many parallels and similarities in their clinical and pathological aspects.

He declared that he could see no cogent reason why some authors, in drawing the line of demarcation between abnormalities which are and those which are not to be regarded as tumors, have placed upon the one side cancerous growths and upon the other side have ranged the permanent products of syphilis and tuberculosis. He did not recognize mere relative size as an adequate distinction between one morbid product which must, perforce, be a tumor, and another which must not be so classified. Carcinoma sometimes presents in its history the phase of miliary eruptions, and, on the other hand, tubercles oftentimes form a confluent tumor-mass of very considerable size and delimitation. All that is at present known of carcinomatosis and of tuberculosis would seem to warrant the

belief that in both there is frequently a strong hereditary predisposition. In both, from the locus of primary manifestation of disease the system may become infected by way of the lymphatics; in both the chain of lymphatic glands along the course of the lymph-vessels which lead from the primary growth may, and often does, form a cordon to prevent, at least for a time, the contamination of the general system; in both, when the morbid influence passes these natural barriers and reaches the circulating blood, metastases in various situations usually occur.

Notwithstanding the research and the observation and the ingenuity of the lecturer, Dr. Shakespeare thought that, as yet, we have no satisfactory reasons for attributing to an ordinary traumatic inflammation any agency in the development of a tumor beyond that of a simple exciting cause.

Dr. FORMAD, in closing the discussion, said, in reference to Dr. S. W. Gross's remarks, that he did not think it probable that tumors could arise from inoculation with tumor-juices unless the latter were the carriers of living tumor-particles. He believed that even in the three cases of apparent inoculation with tumor-juices just referred to by Dr. Gross there was no evidence at all that such small tumor-particles were not suspended in the juice and did not effect the transplantation of the new formations.

In reference to Dr. Tyson's remarks that the similarity between inflammatory products and tumors was limited to only a few instances, Dr. Formad maintained that this similarity was applicable to the majority of tumors, and, contrary to Dr. Tyson's view, was easily demonstrable,—*e.g.*, in carcinoma. Dr. Formad dwelt upon the gradual transition of inflamed skin into a cancrroid, and of a catarrhal inflammation of the stomach or gall-bladder into cancerous growth,—the microscopic picture showing the direct merging of the primary inflammatory changes into cancer, and that it is impossible to point out where the one ends and the other commences.

Dr. Formad could not agree with Dr. Henry that there was necessary "a fibromatous, a lipomatous, an enchondromatous, and other unheard-of forms of inflammation" in accepting the view of an inflammatory origin of tumors. Dr. Formad thought that the ordinary process of interstitial and parenchymatous inflammation and the laws which govern the new formation of tissues are sufficient to explain the histogenesis of the various tumors. Fibroma, he thought, should be regarded as one of the products of a chronic interstitial inflammation; lipoma is nothing else than a uniform fatty infiltration of a fibroma, and a myxoma a mucoid degeneration of the latter. Before we can have adipose tissue we must have connective tissue; and probably all pathological mucous tissue has its origin in a mucoid degeneration of simple

connective tissue. The direct transformation of fibrillar connective tissue into cartilage has been proven by several reliable observers. Thus the chondroma is formed. A parallel to this we have in the process of ossification and in the formation of osteoma, etc. Dr. Formad stated that he was acquainted with no real facts that could be brought forward against the view of an inflammatory origin of tumors.

Dr. Formad agreed with Dr. Nancrede that the quantity of the blood-supply conditioned the growth or the destruction of tissues, and determined frequently the variety of tumor-formation. He maintained, however, that only the inflammatory process was able to prepare a tissue anatomically or to predispose it to tumor-development. The destruction of the endothelial boundaries, the main causative factor, cannot be brought about by irregularity of blood-supply. Continuous hyperæmia, Dr. Formad thought, may bring on—for instance in the mammary gland—a homotopic adenoma, which is only a simple perverted epithelial hypertrophy, and not a true tumor. An injury to the elements of the skin, in the same mammary gland, will, under circumstances referred to, produce a surface epithelioma. An injury affecting the connective tissue of the gland will predispose to sarcoma (rapid effect) or to fibroma (slow effect), while the same cause operating upon the glandular elements proper (destroying the glandilemma) may induce a hard or a soft cancer.

In reference to Dr. Shakespeare's remarks, Dr. Formad stated that he did not mean to declare tumors to be a "natural" termination of inflammation, and that he was perfectly willing to call them a perverted termination of the inflammatory process, occurring only if the healing process is imperfect or retarded.

Tubercle and gumma Dr. Formad did not exclude from the category of tumors, and in them he thought that he had one of the best supports for an inflammatory origin of tumors. Dr. Formad did not think that the causes of the inflammation were here pertinent. In the case of tumor-formation it made no difference whether the operating cause of the inflammation was a specific poison, or a trauma, or anything else. The specific virus is not the cause of the gumma or tubercle, but is the cause of an inflammatory process, which in turn gives rise to the new formation. If the inflammatory changes are arrested, no tumors develop. The excellent series of cases of brain tumors referred to by Dr. Mills, Dr. Formad thought, supported admirably the view propounded.

Dr. Formad expressed his gratitude for the interest taken in the paper by the President and by the members of the Society, and for the many suggestive points ventilated by the discussion.

PHILADELPHIA ACADEMY OF SURGERY.

STATED MEETING OF DECEMBER 5, 1881.

DR. S. D. GROSS, President, in the Chair.

DR. MORTON presented a number of patients who were treated at the Orthopædic Hospital.

CONGENITAL EQUINO-VARUS—THE VARUS CURED BY STRETCHING THE EQUINUS BY DIVISION OF THE TENDO ACHILLIS.

Daniel S., æt. 7 weeks, was brought to the hospital January 22, 1880, with congenital equino-varus of the left foot of about the third degree. Treatment, manipulation and stretching.

February 12, 1880.—Varus much improved; equinus somewhat better.

July 1, 1880.—Improvement more marked.

January 20, 1881.—Child is just beginning to walk; has been wearing braces for three months; the varus is cured; equinus better, division of tendo Achillis will be necessary.

November 3, 1881.—Tendo Achillis divided.

November 30, 1881.—Cured.

RIGHT-ANGLE ANCHYLOSIS OF THE HIP—SUBCUTANEOUS OSTEOTOMY—CURED.

Marion T., æt. 10 years, was admitted to the hospital April 5, 1881, having suffered from coxalgia of right hip for four years. The trouble followed an injury, though there had never been an abscess, and all active symptoms had subsided.

An examination disclosed marked deformity about the hip, with an apparent anterior curvature of the spine. The hip was firmly ankylosed at a right angle, there was a shortening of the limb of two inches, with marked atrophy of limb and foot, measuring an inch and a half less in circumference of thigh and calf than the left limb.

Treatment.—On April 9 the neck of the right femur was divided subcutaneously with Adams saw, the limb was brought into a straight position and extension applied. Some febrile disturbance followed, which was relieved by mist. potass. citrat. The pain following the operation was subdued by morphia.

On May 17 was discharged much improved. At present (December 5), he is wearing a support for the limb when walking, and is in good health. The limb is about two inches short.

DOUBLE EQUINO-VARUS FROM INFANTILE PALSY.

Geo. W., æt. 19 years, was admitted to the hospital the 10th of November, 1881, with equino-varus. His family history was good. When two and a half years of age he suffered from infantile palsy of left limb.

There was no improvement for two or three years, when he became able to stand with assistance. On beginning to walk he found his foot turned over, growing worse till he

was twelve years of age, when the inversion of the foot and elevation of the heel were very marked.

About this time he suffered from neuritis in the right limb, though there was no apparent cause: the ankle became swollen and inflamed. Treatment with cold and stimulating lotions relieved the condition in a week or ten days, so that he was able to walk with the aid of a cane. The limb atrophied, became weak and worse than the left. It grew more feeble for two years, when a brace was applied, since which time he has remained in the present condition, the feet being rigid, and presenting well-marked equino-varus with palsy of anterior muscles.

November 12, 1881.—Under ether the plantar fascia, the anterior tibials, and the tendo Achillis were divided in both feet, and the extensor tendons supplying the toes in the left.

Ordinary walking-shoes with lateral steel supports were applied November 29.

December 4, 1881.—Discharged walking well, with entire correction of the deformity.

Dr. Morton called especial attention to the atrophy which always exists after infantile palsies, and likewise in all cases of club-foot, even when the deformity has been entirely overcome, as well as the wasting and more or less permanent atrophy found in all limbs which have suffered from joint-inflammation, as seen in the case shown to the Society, which required subcutaneous osteotomy.

A CASE OF STRANGULATED SCROTAL HERNIA RELIEVED WITH THE KNIFE, AND FOLLOWED BY A PERMANENT CURE.

Prof. Gross presented the following.

I am indebted for the notes of this case to Dr. Wright, the resident physician of the Jefferson College Hospital, to whose assiduous care the patient is greatly indebted for his recovery.

Wm. Hickman, æt. 48, a hand in a paper-mill, was admitted to the Jefferson College Hospital September 30, 1881, on account of a scrotal hernia of twenty years' duration. On the morning of the day before he was admitted he fell through a hatchway, a distance of some twelve or fifteen feet. He noticed no inconvenience at first, and therefore continued at his work. In the afternoon of the same day, however, he began to have pain in the scrotum, and noticed that it was very much enlarged; he also had a sense of general uneasiness in the abdomen. He tried to reduce the tumor by taxis, but found it impossible. Notwithstanding this, he continued at his work until evening. When he reached his home, two physicians were sent for, who tried in vain for several hours to reduce it. He was now in a very critical condition. When admitted to the hospital, the tumor was almost as large as an adult head. His pulse was from 130 to 140 to the minute, hard and wiry. Temperature, 104°. Marked peritoni-

tis attended with stercoraceous vomiting was present. Immediate resort to the knife was deemed advisable, and he was accordingly taken before the class and etherized. The stricture was situated at the lower ring and was divided on the outside of the sac. No blood was lost, and he recovered in a short time from the effects of the anæsthetic. Three silver sutures were passed through the abdominal ring, and the wound closed with ordinary ligatures. The second morning after the operation the scrotum was found to be almost as large as it was before, and somewhat hot and tender to the touch. The parts were elevated and kept constantly wet with absorbent lint, but the enlargement did not disappear. The case progressed in this manner until, finally, fluctuation was discovered four weeks after the operation. The tumor was accordingly laid open and about eight ounces of pus let out. The parts were reduced at once almost to their normal size, and there has been no further trouble since. The patient has continued to improve, and is now as well as he ever was. The only noticeable thing in the scrotum is a plug of omentum extending into the groin and serving to close up the external ring, thus effectually protecting the parts against reprotrusion. The ends of the silver wire sutures were cut off close, with a view to their permanent retention. Care will be taken to protect the parts properly, for some time at least, with a suitable truss.

A CASE OF COMPOUND DISLOCATION OF THE SEMILUNAR BONE.

Dr. Gross exhibited the specimen and read the history of the case.

Twelve months ago a gentleman, aged about 32 years, in jumping from the platform of a car running at a speed of seventeen miles an hour, struck his hand upon a rock. He was unconscious for a few minutes, and was badly bruised in different parts of his body. A medical man who was called in soon after the occurrence of the accident found what he considered to be a compound dislocation of the wrist, a compound fracture of the radius and ulna, and two displaced carpal bones. Two days after this the gentleman came under the care of Dr. O'Hara, whom I met in consultation the next afternoon. As there was simply a wound half an inch in length on the inner side of the forearm anteriorly, and the limb was much swollen, it was deemed best not to disturb the parts by an examination, the more especially as there was a good deal of constitutional excitement, with progressive tendency. The treatment, local and constitutional, was rigidly antiphlogistic. The limb, wrapped up in a strong solution of lead and opium, was laid on an ice-bag, and the pain was allayed by hypodermic injections of morphia. Ten days later a loose bone was detected in the wound towards the radial side

of the wrist, supposed to be a piece of the radius, but which proved afterwards to be the semilunar bone. The fever meanwhile ran very high and rapidly assumed a pyæmic type, attended with delirium, rigors, and elevated temperature. Extensive suppuration followed, and several sinuses formed, despite the most careful and assiduous attention, and for a time the case presented a formidable aspect. I must not forget to state that the shafts of the ulna and radius were fractured about four inches above the wrist-joint. There was no evidence at any time after the case came into our hands of a fracture of the inferior extremities of either of these bones.

The patient was ill for three months, and his health was so much shattered that he was advised to visit Florida, where, under the kind attention of Dr. Lopez, he gradually recovered, but not without some ankylosis of the wrist-joint and some defect in the functions of his hand, owing to the involvement of the sheaths of some of the flexor tendons.

O. H. ALLIS,

Recorder.

REVIEWS AND BOOK NOTICES.

THE SANITARY CARE AND TREATMENT OF CHILDREN AND THEIR DISEASES. Being a Series of Five Essays, by DRS. ELIZABETH GARRET ANDERSON, SAMUEL C. BUSEY, A. JACOBI, J. FORSYTH MEIGS, and J. LEWIS SMITH. Prepared by request of the Trustees of the Thomas Wilson Sanitarium of Baltimore, Md. Boston, Houghton, Mifflin & Co., 1881.

How to make haste slowly, how to wait in this age and land of hurry till thought and time have thoroughly matured their plans, seems a speciality of Baltimore trusteeship. In this case, among the valuable first-fruits of their patience we have this book of essays and plans, which will hold for years a foremost place as authority in the difficult question of how to take the best care of children.

The names of the writers are familiar to all. The nature of the book is clearly set forth in the introductory letter which elicited the essays. As showing that the care of children has attained somewhat of the dignity of scientific certainty, we would call attention to the fact that, diverse as are the surroundings of the writers, different as may be the climates they respectively inhabit, there is but little conflict of authority between them as to vitally important points. There is diversity enough; the writers seem to breathe a freer air than when confined to monograph, textbook, or didactic discourse, and it is the undesigned coincidences of all these practitioners who have distinguished themselves in life for their successful work in this department

of medicine which give their accumulated experience its weight and force.

The public are not yet sufficiently educated in the best methods of rearing children; and no better book can be found for the intelligent layman to read than this. The quiet certainty on fundamental points which in a treatise would seem dogmatic is here only incidental to the grand plan. The decalogue of child-rearing—the "thou shalt" and "thou shalt not"—comes to the reader with almost indisputable authority.

"How can Children in a City be kept Healthy?" is the title of the first essay, by Elizabeth Garret Anderson. The writer first inquires "what children most want in order to be in sound health." Her answer is, fresh air, suitable and abundant food, healthy parentage, protection from contact with sources of contagion and "all other influences which would interfere with the normal development and stability of the nervous system," and "to be the objects of a minute and all-watchful care." Pure air is considered the first and all-important requisite, and the author argues that if supplied with pure air children will thrive though food be insufficient, clothing scanty, and care wanting, but that all luxuries and comforts will fail if pure air be unattainable. Yet it is discouraging to read, "to children in towns, pure air is an impossible luxury." The author is sententious and graphic; her pages abound in wise sayings, the records of careful observation. She says, "Notice how much more robust the children of the careless class of mothers are when past early infancy than those of the careful." And "the best remedy for the indifferent quality of town air is to take a great deal of it in quantity." The causation of infantile diarrhœa is stated thus: "Everything points to the conclusion that the etiology of infantile diarrhœa is complex, and that high temperature is but one of its important factors, while impurity of air is another; probably the two combined induce some subtle changes in milk and other staples of children's food." She considers that the rules for children's diet should be "plain, minute, dogmatic," without attempt at physiological or chemical explanation, and that the chief hindrance to success lies in the "ignorance and unenlightened affection of the parents." The objectors to infant and primary schools as centres of infection are told that "poor children know no solitude," anyway. The writer pays considerable attention to the subject of the prevention of nervous disease. She credits American children with a tendency to "undue restlessness and irritability of nerves," and with precocity, the truth of which assertions—or aspersions—we have no means of proving. The essay is throughout instructive and suggestive.

Dr. Busey's essay is upon "The Mortality of Young Children, its Causes and Prevention." It is lengthy and statistical, and con-

tains valuable work. The relations of infantile summer diarrhœa to the relative heat and humidity of the atmosphere are carefully studied. The questions of nutrition, infant digestion, artificial alimentation, are discussed in the most thorough manner. Space will not allow of an outline of its 136 pages, and we can only refer it to the reader as well worthy of study.

Dr. Jacobi's essay is upon "the Improvement of the Condition of the Poor and Sick Children; General Principles." In it are given the rules distributed by the New York Board of Health with such good results. Dr. Jacobi goes carefully into estimates and plans for the sanitarium, and gives his own views as to the proper way of feeding young children. The many statistics which he gives will also be found of great value.

Dr. John Forsyth Meigs contributes "Observations upon the Sanitary Care and Treatment of Children and their Diseases." This essay is exceedingly able and thoughtful; yet doctors disagree. While Dr. Anderson alludes to the fact that young children are as a rule always better suited by sea-air than any other as beyond question, we find Dr. Meigs speaking of the choice of a site for the proposed sanitarium, and recommending "an interior region of some altitude above the sea." Dr. Meigs quotes largely from the "Manual of Practical Hygiene" of Dr. Parkes, and discusses the question of the cost of a sanitarium and its general plan; he gives his views upon infant-feeding, which differ in some important particulars from those generally taught, as in the matter of beginning feeding at an early period. His personal observations on the question of how much milk a healthy woman secretes per day are of great interest, as also that part of the essay relating to the management of cholera infantum and diarrhœa, out-door exercise, and the proper clothing for children. The essay will be read with the interest which so high an authority can always command, even were it not written in that easy and graceful style in which the author notably excels. At the end will be found a suggested form of tract for distribution, which condenses his life-long experience into a convenient form.

The concluding essay is upon "the Causes of the Great Mortality of Young Children in Cities during the Summer Season, and the Hygienic Measures required for Prevention," by Dr. J. Lewis Smith. The ground occupied is similar to that of the other essayists; and, while we find these essays nominally upon the suggested subject of the sanitarium, the pages of each and every one teem with suggestions, hygienic, therapeutic, and dietetic, of the greatest value. There is little of value on these subjects to be learned from the best library, no matter how extensive, which cannot be found on the pages of this book of essays.

E. W. W.

FROZEN SECTIONS OF A CHILD. By THOS. DWIGHT, M.D. New York, Wm. Wood & Co.

This book does not belong to the yearly medical library of the publishers, and therefore has not been written to order to fill up a gap, and is presumably published because its author thinks he has something fresh to say or to show. Dr. Dwight is instructor in Harvard University, and the sections were originally made for teaching purposes. There are fifteen plates in all, boldly and strongly drawn, with excellent descriptions, or rather discussions, of them in the text, which is bound with the plates in such a way that the pictorial representation is immediately followed by the printed thought.

GLEANINGS FROM EXCHANGES.

PERMANGANATE OF POTASSIUM IN SNAKE-BITES.—M. de Lacerda (*Medical Times and Gazette*, October 29, 1881) has lately discovered a fact of considerable scientific and practical importance, which he has communicated in a note to the Paris Academy, namely, that permanganate of potassium counteracts very effectively the poison of snakes. In a first series of experiments, a water solution of the poison was injected into the cellular tissue of dogs, under the legs, and its usual effects were large swellings, with abscesses, loss of substance, and destruction of tissues. But when an equal quantity of filtered (one per cent.) solution of permanganate of potassium was injected one or two minutes after the poison, these local injuries were quite obviated; there was merely a slight swelling where the syringe had entered. Next, introduction into the veins was tried, and the permanganate again succeeded admirably. In only two cases out of more than thirty was there failure, and this is attributed to the animals experimented on being very young and weak, and badly fed; also to the antidote being administered at too long an interval after the poison, when the heart was already tending to stop. In one series of cases the permanganate solution was introduced half a minute after the solution of venom, and the animal operated on showed no derangement beyond a very transient agitation, and acceleration of the heart's action for a few minutes. In another series, the characteristic troubles caused by the poison were allowed to manifest themselves (dilatation of the pupil, quick breathing and heart-action, contractions, etc.) before the antidote was applied. In two or three minutes, sometimes five, the troubles disappeared; a slight general prostration followed for fifteen to twenty-five minutes; after which the animal would walk, and even run about, and resume its normal aspect. Other dogs poisoned similarly, but not receiving the antidote, died more or less quickly.

NITRATE OF SILVER IN SCIATICA.—Subcutaneous injection of nitrate of silver has been strongly recommended and frequently employed by M. Le Dentu, of the St. Louis Hospital, in the treatment of sciatica. The following is a case that succeeded in the hands of Dr. Greslon. A woman *æt.* 53, of a rheumatic diathesis, suffered from all the classic symptoms of sciatica in the left leg. The whole member, from the external malleolus to the sacro-sciatic notch, was the seat of lancinating pain, which lasted a month. All the ordinary means being used, but without effect, the patient consented to the subcutaneous injection of the agent in question. Five drops of a solution (1 in 4) were injected in the upper and posterior portion of the thigh, at a point corresponding to the exit of the sciatic nerve. This injection was immediately followed by great pain, and an abscess formed, giving exit to a teaspoonful of pus. Three or four days afterwards the patient was able to get up and walk about, all pain having left the leg. However, the point corresponding to the sciatic notch remained as sensitive as before, and another injection was practised, which was not followed by an abscess, and in a week the cure was complete. This case is not only interesting from the rapidity of the cure, but also from the fact that the subject was rheumatic, and consequently was unfavorable as to prognosis.—*Medical Press and Circular*, October 12, 1881.

TREATMENT OF PURULENT ENDOMETRITIS WITH ULCERATION OF THE CERVIX.—Dr. Chéron remarks that patients suffering from a purulent discharge, the result of endometritis, with or without ulceration, are frequently unable to bear injections of such substances as coal-tar, which are particularly apt to dry the secretion. In such cases Dr. Chéron finds it useful to employ the following solution of tannic acid in glycerin:

Tannic acid, 60 grams.

Sydenham's laudanum, 10 grams.

Neutral glycerin, 350 grams.

Dissolve the tannic acid in the glycerin by means of heat, without using water, then filter and add the laudanum, viz., one or two dessert-spoonfuls to be added to a litre of warm water; injections to be made morning and evening. The effect of the injections is to cause a rapid diminution of the purulent secretion. The pruritus and irritation of the external parts disappear, whilst the sensations of weight and pain are less felt after a few days. If there be no ulceration, the dose of laudanum may be increased to twenty, or even to thirty, grams, without inconvenience.—*Le Progrès Médical*.

OSSEOUS LESIONS IN HEMIPLEGIC SUBJECTS.—Before the Société Médicale des Hôpitaux, M. Debove recently made a few observations on the osseous lesions met with in hemiplegic subjects. As surgeon of the Bicêtre Hospital, he had observed several

fractures in paralytic subjects, and he soon remarked that the fracture was always on the side of the hemiplegia. There was reason to think that the bones of the affected side had undergone some alteration that rendered them more friable. At the autopsy of an hemiplegic who had fractured the humerus, M. Debove was able to observe that not only had the fractured bone undergone this alteration, but all the bones of that side were affected. In comparing the two sides he found that the humerus of the side affected with paralysis was lighter than the opposite. On making a transverse section of the bone, the medullary canal was larger than usual, and the substance of the diaphysis was less compact. The Haversian canals were greatly dilated, and the bone was porous. There was evidence also of fatty degeneration. These lesions were sufficient to explain the relative frequency of fractures in hemiplegics. M. Debove further observed that these fractures united very rapidly.—*Medical Press and Circular*.

DRAINAGE OF THE PERICARDIUM.—A case probably unique in the annals of paracentesis has been recorded by Rosenstein of Leyden. A child, aged 10 years, suffering from pericardial effusion, presented such a degree of interference with circulation and respiration that an aspirator-needle was passed into the fourth intercostal space near the sternum, and 620 cubic centimetres of liquid were withdrawn. Left-sided pleural effusion soon followed, and 1100 cubic centimetres of liquid were evacuated. The cardiac symptoms increased, and necessitated a second puncture of the pericardium; 120 cubic centimetres of purulent liquid were withdrawn. A relapse occurring, a larger opening was made (an inch and a half long) in the fourth intercostal space. The soft parts were divided layer by layer under strict antiseptic precautions. When the pericardial cavity was reached, a large quantity of pus escaped. Two drainage-tubes were inserted. The operation was followed by an immediate return of the circulation and respiration to normal conditions. An incision into the pleura, however, also became necessary. At the end of four months of treatment the patient left the hospital in good condition. There was no pyrexia or œdema of the skin in the præcordial region to indicate the purulent nature of the effusion.—*Lancet*, October 15, 1881.

AN AGREEABLE ADDITION TO TINCTURE OF THE CHLORIDE OF IRON.—Dr. Reed, of Montreal, says that the addition of citrate of potassium to tincture of iron will disguise its, to many, unpleasant taste. For a tablespoonful dose containing ten minims the prescription may be: Tinct. ferri chlor., fʒij; potass. citrat., ʒj; syr. limonis, ʒiiss; aquæ ad fʒvj. Another advantage of the mixture is that astringent tinctures, as bark, gentian, etc., may be added without decomposition.

ABLATION OF FIBROID TUMORS OF THE UTERUS.—At the Académie de Médecine M. Guéniot communicated some observations on the different methods employed in the ablation of fibroid tumors of the uterus. He would give the preference to excision by the aid of the constrictor or *serre-nœud*, on account of its simplicity and its security. He considered it even superior to Chassaignac's *écraseur*, in that it can be applied with greater facility, and that it can attain polypi situated on the fundus of the uterus without necessitating a previous traction on the organ. The operation is as bloodless as when the *écraseur* is employed, and the pedicle is cleanly cut across.

ARSENATE OF SODA IN PSORIASIS.—Dr. Guibout prescribes 1 centigramme of the arseniate with 1 gramme 60 centigrammes of the extract of gentian, dividing into ten pills, of which from two to three are given at each of the three meals; or, instead of the pills, from 1 to 2 tablespoonfuls of the arseniate, 10 centigrammes in 500 grammes of distilled water, may be taken at each meal. The arseniate is to be continued in some forms of the disease for from six to twelve months after the disappearance of the eruption. Repeated purgatives must be given; and if the patient is robust, alkaline preparations; while if he is weak and anæmic, tonics and preparations of iron must be resorted to. As an external application, 10 to 15 parts of pyrogallac acid to 100 of lard may be employed, soapy baths being used every two or three days for cleansing the skin. Juniper oil (*l'huile de cade*) used in frictions twice a day may be substituted for the baths. The treatment should be completed with alkaline baths.—*Union Médicale*, October 20, 1881.

FORMULA FOR BROMIDIA.—

℞ Potassium bromide, 4 ounces;
Chloral hydrate, 4 ounces;
Ext. hyoscyamus, 16 grains;
Ext. cannabis indica, 16 grains;
Alcohol, 2 ounces;
Water, q. s. to make one pint.
Kelner's Compendium.

MISCELLANY.

PRIZE-REWARDS OFFERED BY THE DANISH SOCIETY FOR THE PROTECTION OF ANIMALS.—The Danish Society for the Protection of Animals (under patronage of His Majesty the King of Denmark) offers two prizes, of two thousand and one thousand francs respectively, for the best and second best scientific essay on that part of the vivisection question which concerns the possibility of replacing *living* by *recently-killed animals* during physiological investigations, and sufficiently indicates not before known cases in which such a substitution of dead material may be applicable.

We refer specially to a well-known declara-

tion of Prof. M. Schiff, that "under certain circumstances the functions of life may be studied in recently-killed animals."

In these essays the possibility and desirability of replacing painful experiments on animals by some *other methods of research* may also be a subject of inquiry.

The essays may be written in the Danish, Swedish, English, French, or German language. They must be clearly and legibly written, signed with a motto, which is also to be placed on an accompanying sealed envelope containing the name and address of the writer. These are to be forwarded before the 1st of September, 1882, to His Excellency Mr. A. de Haxthausen, President of the Danish Society for the Protection of Animals, at the office of the Society, Copenhagen.

The board of directors will secure scientific assistance in awarding the prizes. In the event of none of the essays possessing sufficient merit to warrant a prize, smaller rewards will be given to those competitors whose essays bear evidence of ability as well as sympathy with the object of the Society, which reserves all rights of publication.

Our Society is only too well aware that the claims of humanity are not to be satisfied by these means as extensively as it should wish. It will, however, feel itself richly rewarded if its efforts result in diminishing the number of experiments in which animals are subjected to great and lingering agony. In this earnest hope, we respectfully request all humanely-feeling scientists of every country in the world kindly to comply with our challenge.

THE BOARD OF DIRECTORS.

COPENHAGEN, July, 1881.

THE OVERPLUS IN THE PROFESSION.—That the profession is overloaded, not only in this country, but also in England, is evidenced by the number in England who openly advertise medicine and advice at sums varying from threepence to one shilling per week, and especially by the pressure for government positions in the English dependencies. About a month since, an appointment of medical officer to the Wynaad mining district was advertised, at a salary of seven hundred pounds per annum, —not a very lucrative post for India; yet seventy candidates applied, and were ready to risk the unhealthy climate of that locality for this emolument.

RESORCIN IN AURAL SURGERY.—Dr. Rossi, of Rome, communicates to the *Archives of Otolaryngology* a note on the use of resorcin in aural practice. This substance, a parabioxy benzole, discovered by Hlaswitz and Barth in 1864, was introduced into medical practice by Andeer in 1877. Dr. Rossi has used it in more than two hundred cases of purulent middle-ear inflammation, and claims that *no* remedy at his disposal has given such substantial results in this obstinate affection as resorcin. He has used it *pure*, or in aqueous or alcoholic solution, 4 in 100. He promises further records of results.

PENNIES OUT OF PLACE.—A coroner's inquest was held lately in London on the body of a child, three years of age, whose death had been caused by swallowing a coin in some sweetmeats. From the evidence adduced, it appears that in the neighborhood of Clerkenwell packets of sweets are sold in which coins are placed, being baked in the centre. The deceased child got a farthing in the centre of the sweet she purchased, and she swallowed it, with the result of causing inflammation, peritonitis, and death. A number of deaths have taken place in this locality from the same cause.

ERASMUS WILSON, the dermatologist, recently elected President of the Royal College of Surgeons, has received the honor of knighthood and the distinction of a cartoon in the London *Vanity Fair* and *Punch*.

DR. J. S. BILLINGS and **DR. H. J. BIGELOW**, of Boston, have been elected honorary members of the London Clinical Society.

NOTES AND QUERIES.

THE PATHOLOGICAL SOCIETY OF PHILADELPHIA is about issuing its Transactions for 1880-81. Desiring to give the valuable matter in the volumes already published a wider circulation, the committee has decided to dispose of single volumes at sixty cents, including postage. Whole sets will be furnished at fifty cents a volume.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 11 TO DECEMBER 24, 1881.

ALEXANDER, R. H., MAJOR AND SURGEON.—The leave of absence granted him in S. O. 215, September 19, 1881, from A. G. O., is extended one month. S. O. 285, A. G. O., December 17, 1881.

MCCLELLAN, ELY, MAJOR AND SURGEON.—Relieved from duty at Fort McHenry, Md., to proceed to Fort Trumbull, Conn., and relieve Assistant-Surgeon W. H. King. S. O. 224, Department of the East, December 15, 1881.

KING, W. H., CAPTAIN AND ASSISTANT-SURGEON.—When relieved by Surgeon McClellan, to repair to Fort McHenry, Md., and report for duty at that post. S. O. 224, c. s., Department of the East.

HOFF, J. V. R., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 222, Department of the East, December 12, 1881.

PERLEY, H. O., CAPTAIN AND ASSISTANT-SURGEON.—Having reported in person at these Headquarters, will report to the commanding officer, Fort Columbus, N.Y.H., for duty as assistant to the post-surgeon and attending surgeon at these Headquarters. S. O. 224, c. s., Department of the East.

GORGAS, W. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for an extension of one month. S. O. 150, Department of Texas, December 3, 1881.

RAYMOND, HENRY J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved temporarily from duty at Alcatraz Island, Cal., and to report to the commanding officer of the Presidio of San Francisco for duty at that post. S. O. 214, Military Division of the Pacific and Department of California, December 9, 1881.

MADDOX, THOS. J. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Having completed the duties assigned him under S. O. 248, November 3, 1881, from A. G. O., will report in person to the Surgeon-General U.S. Army. S. O. 238, A. G. O., December 15, 1881.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JANUARY 14, 1882.

ORIGINAL COMMUNICATIONS.

THE PREVENTION OF SYPHILIS.

An Address prepared at the Request of the Philadelphia County Medical Society, and read before it December 14, 1881,

BY J. WILLIAM WHITE, M.D.,

Lecturer on Venereal Diseases in the University of Pennsylvania, Chief of the Venereal Out-Patient Department of the University Hospital, Surgeon to the Philadelphia Hospital, Demonstrator of Surgery and Lecturer on Operative Surgery in the University, etc.

MR. PRESIDENT AND GENTLEMEN,—In opening the discussion upon the legislative prevention of syphilis, it would be folly to occupy your time with any elaborate demonstration of the necessity for some prophylactic measures directed against this most destructive disease. It seems simply marvellous that intelligent and public-spirited citizens, energetic and conscientious health boards, sanitarians and philanthropists of all sorts and degrees, while attempting, and in many directions succeeding in, the destruction or limitation of forces and conditions prejudicial to the general welfare, should at the same time have made no effort to arrest the spread of a malady which is perhaps the most widely diffused, and the most serious in its immediate and remote effects, of all the ills that flesh is heir to; which to-day, in this enlightened country and period, is believed to affect at least two millions of people out of a population of fifty millions, and which often follows its victims from early manhood or womanhood to the grave, or perpetuates its vicious influences in succeeding generations.

Although there appears no sufficient reason for this apathy and indifference, yet there are certain causes which operate to produce it, and which become evident as soon as attention is directed to the matter. First among these is the fact that to discuss the subject, or even to mention it, in secular circles, is to offend against an unwritten but stringent social law. That subjects exclusively sexual in relation and significance should be tabooed in general conversation is manifestly proper; but that a disease should have become unmentionable to ears polite merely on account of its most frequent mode of transmission seems to be an evidence of prudishness rather than of modesty. Whether this is right or

VOL. XII.—8

wrong, however,—and much might be said on both sides,—the result is that, as the newspapers participate to a great extent in the same prejudice, the two chief avenues for the diffusion of necessary knowledge throughout the community are closed, and the prevalent condition of the popular mind is one of dense ignorance about the whole matter.*

The other prominent cause of the want of interest or of action which has been noted, lies in the assumption that the suppression of syphilis or the recognition of prostitution necessarily means the encouragement of vice, a question to which I shall return in a few moments, and which has resulted in arraying against the movers in favor of legislative action a large proportion of the orthodox population.

No time need be occupied before this audience in explanation of the nature, symptoms, cause, or possible terminations of syphilis, but you will recall, in passing, the insignificant appearance, insensitiveness, and local harmlessness of the initial lesion or chancre; characteristics which, rightly understood, combine to render it most dangerous to the patient himself and to the community,—dangerous to the patient, because the apparent unimportance of this primary manifestation leads him to disregard it and to neglect treatment; dangerous to the community, because such a patient ignorantly becomes the source of infection of others, and possibly before learning its true character conveys the disease, by means of some of its secondary lesions in the mouth or elsewhere, to those persons whom, of all in the world, he would have sought to protect.

You all know its subsequent behavior,—the roseola, mucous patches, rupia, and gummata, the keratitis, choroiditis, and retinitis, the epilepsy, embolic apoplexy, and locomotor ataxia, the granular and amyloid degenerations of the kidneys and liver, the indurated or softened lungs,

* "By conventional agreement society is forbidden to speak on the subject unless in whispers; and he who ventures to write upon it in a journal for general readers must either suppress many of the most important facts and arguments relating to it, or run the risk of damaging the medium which he uses. Women, who ever, as a rule, shape their conduct conformably to the views and wishes of men, offer the most powerful conservative resistance to any agitation of this momentous topic; many observe and impose the silence of hypocritical ignorance, feeling constrained, while wholly conscious of the vast importance of the evil in question, to act and speak as if unaware of its existence; and many more, from genuine delicacy, avert their eyes and resolutely ignore it."—*The Westminster Review*, July, 1869.

and the inflamed, ulcerated, necrosed, or hypertrophied bones, which may result from it.*

You know, also, that this disease, so widely diffused and so destructive in its tendencies, may be handed from individual to individual by mere contact with infected articles; by a toy, a tooth-brush, a dentist's instrument, a pipe, or a cigar; by the mouth of the suckling, or the breast of its nurse; by the kiss of filial affection as well as by the embraces of the strumpet; you know—none better—that it may be transmitted by ignorant or careless parents to unborn generations, and that thousands of deformed, imbecile, often loathsome children are annually brought into the world under its influence.†

That this malady, which is capable of penetrating every molecule of the system, of destroying its victims by the tens of thousands, whose modes of attack are so various and whose avenues of entrance are so diverse, has any tendency to spontaneous disappearance, cannot be claimed as an excuse for non-action.

The exact date of its origin has never been satisfactorily settled, but it seems probable that it is the disease alluded to by Moses in Leviticus, and subsequently described by Hippocrates, Galen, Celsus, Pliny, and others. It is certain, at least, that almost four hundred years ago it appeared with great violence in Europe, whether as an importation or as an original and indigenous product not being positively known.

However this may be, it is undoubted that once having a foothold the disease

found the countries of Europe sufficiently hospitable, soon established its claim to be received in the best society, became the life-long associate of many celebrities in art and literature, and contracted an inseparable attachment to numerous dignitaries of the State and, I regret to say, also of the Church. Although during these four centuries it has become somewhat milder in type, it has at the same time involved continually larger numbers of people, and is at the present day demonstrably increasing.‡

From the many excellent essays upon the subject which I have used freely in the preparation of this article,§ I extract a few figures, necessarily approximations, but which will serve to illustrate this statement in a more definite manner.||

You have heard that it is estimated that nearly two millions of the population of this country are at present infected with some form or phase of syphilis; and there is reason to believe that these figures understate the prevalence of the disease. In the British navy during 1879, in ports protected by certain laws, to which I shall presently refer, one sailor in every thirty or thirty-five contracted syphilis. In ports not so protected, one in every ten or twelve acquired the disease.¶ In the United States navy one sailor in every twenty contracts syphilis each year. How many of the remaining nineteen already have it, it is impossible to say. In the army the percentage is nearly the same.** Fifteen thousand cases of venereal disease are annually treated at the *public* institutions in New York City, to say nothing of those who seek private advice. Dr. Sturgis, after a very careful review of the subject, concludes

*Of the possible relationship between syphilis and scrofula, cancer, or tubercle, it may be said that, though as yet unproved, and therefore unaccepted by the majority of the profession, it is earnestly believed in by many whose opinions usually receive well-merited respect. That the depraving effects or results of syphilitic poison powerfully predispose to the development of these diseases is without reasonable doubt.

† The vast majority of syphilitic children die before, at, or soon after birth. "Eighty-five cases of pregnancy, considered only in their result the most direct and the least subject to error, viz., the death or the survival of the infant, furnish the following figures:

Cases of survival.....	27
Cases of death (abortions, premature accouchement, infants still-born, infants dead within a short time after delivery).....	58
	85

Thus, in eighty-five births, fifty-eight deaths,—that is to say, in round numbers, more than two cases of death to every three births."—Fournier, *Syphilis et Mariage*.

Other statistics given by the same eminent syphilographer foot up four hundred and sixty-seven deaths in six hundred and nine births. These latter, to be sure, are taken from hospital practice and in a class of patients peculiarly exposed to the accidents of pregnancy, but, making all due allowance for these facts, the figures speak for themselves.

‡ Writing in 1869, the late Mr. Acton remarked (*Prostitution*, 2d ed., p. 68), "I doubt whether venereal complaints, although evidently more severe formerly, were ever more common than at present, or whether, since syphilis was first treated in hospitals, the large proportions here noticed, namely, two out of three out-patients at the Free Hospital, nearly one in two at St. Bartholomew's, one out of every three at the *Dreadnought*, one out of four in the army, one out of seven in the navy, at any former period suffered from venereal disease; and yet many believe that the disease is declining. That such is not the case, if number be any criterion, must be admitted by all who weigh well the above statistics and compare them with the statements met with in nearly all the books that have treated of syphilis."

§ Among the best of these are two by a member of this Society—Dr. Swayze—and several by Dr. Gihon, of the United States Navy.

|| If in any case credit has not been given for this or other material extracted, it has been due to inadvertence.

¶ Statistical Report of the Health of the Navy, Director-General John W. Reid, M.D., London, August 24, 1880.

** Report of the Committee on the Prevention of Venereal Disease, Chairman, Dr. A. L. Gihon, United States Navy. Presented at the Eighth Annual Meeting of the American Public Health Association, New Orleans, 1880.

that there are in New York at any one time from sixty to seventy thousand venereal cases,—about one in every fifteen of its men, women, and children.* In this city it is difficult to obtain accurate statistics, but, after careful inquiry and comparison of various hospital reports, including those of the eye infirmaries, where so many cases of syphilitic trouble present themselves, I am safe in saying that among those who are so poor as to apply publicly for medical relief there occur annually in Philadelphia from ten to twelve thousand cases of syphilis. And I am also within bounds when I state that, including the hereditary with the acquired form, not less than fifty thousand people of *all* classes are at any one time affected with the disease.

As this statement seems at first sight open to reasonable doubt, it may be well to give an idea of the method by which such figures are arrived at. That pursued by Dr. Sturgis in the pamphlet already quoted from is as follows:

"Taking New York, he finds that, for the year 1873, 280,536 persons received gratuitous medical aid. The venereal cases were 12,341, and of these 5045 were syphilitic. Then taking the statistics for the mercantile marine, he found the percentage of venereal to total number of cases ranged from 16 to 24 per cent. Call it, he says, as an average, 20. That is five times as much as he gives the percentage for New York venereal poor. In the same report he found that the percentage of syphilis to the total number of sick was over 16: that was about ten times as much as his estimate, leaving nine-tenths to be accounted for. If we adopt this view, we have a total of 49,364 persons treated privately for venereal diseases in New York, of which 45,405 would be syphilitic. In other words, out of a population of 942,292 persons, 61,705 would be suffering from venereal diseases in some form, and of these 50,450 would be due to syphilis."†

The same line of reasoning, which seems to be logical, would at present make the estimate for Philadelphia about as has been given. The difficulty which surrounds the obtaining of direct statistical returns covering the whole community is obvious.

Twenty-five thousand cases of venereal

disease are annually registered in the out-patient department of Guy's Hospital, London, and one hundred thousand of the poor in London, affected with syphilis, apply at the hospitals for relief.‡ These figures are absolute, and are in themselves appalling; but when we remember that M. Lecour, Prefect of Police in Paris, and Dr. Sturgis, reasoning from data entirely different, both arrive at the conclusion that the proportion of private to public cases is *at least* five to one, their true importance becomes painfully evident.§ Dr. Vintras, after inquiries made in Paris in conjunction with Mr. Skey, the chairman of the commission appointed by the Admiralty, concludes that only twenty per cent. of venereal patients come to general hospitals or dispensaries, thirty per cent. being treated by quacks and druggists and fifty per cent. treated in private practice.|| It is also stated as a close approximation to the truth, and from calculations based upon the foregoing facts, that thirty thousand males are daily infected with venereal poison in the cities of the United States, a large proportion of whom are residents of inland or country towns, whither they return to spread the contagion.

Cornil,¶ after referring to the statistics of venereal disease in the French army, adds, "It is assuredly a proportion much below that found among workmen and young men of wealth in large cities."

Louis Jullien, in an admirable essay on the Geographical Distribution of Syphilis,** estimates as follows the prevalence and severity of syphilis in the various countries of the globe. I give merely his general conclusions, which he substantiates by figures and by reference to eighty-one distinct authorities, to whom I must refer those who question the statistics already given.

† Legislation and Contagious Diseases, Philadelphia, 1876, J. Marion Sims, M.D.

‡ Report of Committee on Prevention of Venereal Disease, New Orleans, 1880.

§ On the Repressive Measures adopted in Paris, compared with the Uncontrolled Prostitution of London and New York, by A. Vintras, M.D., London, 1867.

|| Although it is evident that all the estimates used for these calculations are (we know no other word that expresses it) ridiculously low, yet we find that more than a million and a half cases of syphilis occur every year in England, Wales and Scotland, an amount which is probably not half the actual number. How enormous, then, must be the number of children born with secondary syphilis! how immense the mortality among them! how vast an amount of public and private money expended in the cure of this disease!—*Medico-Chirurgical Review*, quoted by Dr. W. W. Sanger, *The History of Prostitution*, New York, 1858, p. 359.

¶ *Leçons sur la Syphilis*, Paris, 1876, p. 72.

** *Treatise on Venereal Diseases*, Paris, 1879, pp. 480-533.

* *Relations of Syphilis to the Public Health*, Frederic R. Sturgis, M.D., New York, 1877.

† *New York Medical Record*.

"In Sweden and Norway syphilis is extremely common, the gravest tertiary symptoms frequently occur, and death often results." "The Russian Empire pays a heavy tribute to syphilis: with a few exceptions, so rare as not to affect statistics, the entire prostitute population over twenty-five years of age has syphilis." "In Great Britain 1,652,000 individuals of both sexes are annually infected with syphilis" (see note ||, p. 227). "In France the proportion is much less than in Great Britain." "Mauriac, by ingenious calculations, estimates the number of cases annually contracted in Paris at from 5000 to 8000." "Belgium, protected by a wise sanitary reform, is relatively little affected." "In Prussia the efforts of the government have greatly ameliorated the condition of the Baltic provinces, formerly decimated by syphilis, and in the Prussian army the proportion of venereal diseases per 1000 was only 54, the least which we have been able to discover." "In Bavaria, Seitz reports that a modification of police regulation made in 1861 rapidly doubled the number of men infected in Munich." "In Spain syphilis is neither rare nor benign." "In Portugal it is frequent but mild." (This is said by some authors to be due to the previous syphilization of almost the whole population.) "In Egypt, in Abyssinia and Nubia, and at Tunis it is very common." "The majority of the negroes of Western Africa are sooner or later infected." "At Cape Town in 1868, from April to October, 1865 individuals furnished 315 cases of syphilis." In Asia and America the results of investigation correspond in the main with those quoted above. M. Jullien concludes, "The diffusion of syphilis appears to be unquestionably in proportion to the neglect of private and public hygiene."*

* The committee appointed by the American Medical Association at Louisville in 1877 reported, through their chairman, Dr. John Morris, of Baltimore, that, in their judgment, "there is no possibility of stamping out syphilis until all the nations of the world are protected by proper repressive measures. . . . Even partial legislation will do much good, for syphilis, however and whenever it originates, fixes itself in great populous centres and has its habitat in the abodes of poverty, filth, and vice, rising in the end from these conditions to the highest degree of social life, and contaminating whole communities in its march. . . . To constitute ground for State interference it must be conceded that the evil is of such magnitude as to endanger the welfare of society at large, and that it cannot be reached by ordinary social or civil means. Can it be doubted, in the present state of our civilization, that syphilis is such an evil, and that, if not arrested, it will lead to the general decadence and perhaps total destruction of the race? . . . It is impracticable at the present time, in view of the ignorance and prejudices of men, to secure more than partial legislation looking to this purpose. We can, therefore, only hope to obtain the passage, at first, of enactments having in view

Let me give you briefly one example taken from my case-books, and which, doubtless, could be duplicated by every member of this Society, of the ordinary means by which from any given centre of syphilitic infection this malady spreads throughout the community.

In March, 1877, I was called to see a young girl recently arrived in this country and living in a house of prostitution. On inquiry I found that she had been busily plying her trade for two or three weeks, and that, as her appearance was attractive and as she was living at one of the least objectionable of the houses of its class, she had been receiving on an average in each twenty-four hours about six different men, most of whom, as I was aware from my knowledge of the *habitués* of the house, were of good social position. She told me, as I find now from notes made at the time, that for a week or more she had had slight pain during copulation, with often a tinge of blood at the completion of the act. She was at least as cleanly and as careful of herself as such women usually are, but, having no other symptoms, had not thought it necessary to seek advice. On examination I found a small, painless sore, situated at the posterior commissure of the vulva, and a few enlarged inguinal glands. I advised her to abstain from further intercourse, which advice she did not follow. The sore healed promptly, under mild local treatment; but six weeks later, about the middle of May, she developed secondary symptoms, which, in their turn, disappeared under a proper mercurial course. In the mean time, however, four young men came under my professional observation, all of whom had been infected by this girl. They all had indurated sores and the usual symptoms of syphilis, and were all treated, as far as possible, by continuous doses of protiodide of mercury, followed by iodide of potassium.

No. 1, a clerk, sent to me by the girl herself, was especially troubled with headaches, and, in 1879, had several epileptiform seizures. He was absent from his work for long periods, was compelled to break off an engagement of marriage, and is still under treatment, at present by a brother practitioner. So far as I know, he did not infect any one else.

No. 2, a lawyer, had very few secondary symptoms, but, before he discovered his sore, handed it on to the mistress of one of his friends. He has since seemed to be cured; but the woman he infected subsequently gave birth to a syphilitic child.

the regulation of persons engaged in the military and naval service of the government, and also those ordinarily subject to the control and supervision of the police and municipal authorities of cities and large towns, though, in the end, we are convinced that the extension of this control and supervision to the whole civil population will be the inevitable legislation of all countries."

No. 3 has had fresh evidences of the disease within the last few months, and has syphilized his wife.

No. 4 became hypochondriac, fell into the hands of quacks, tried a variety of methods of treatment, and now has a perforation of the hard palate and other symptoms of syphilis. He has not had connection since March, 1877.

The girl herself who ignorantly and unintentionally gave rise to all this evil, I saw a year later living in a house of much worse character. She was emaciated and haggard, had large syphilitic ulcers occupying the anterior tibial regions, was drinking hard, and was evidently rapidly approaching the termination of her unfortunate career.*

It would be idle to speculate upon the possible extent of the damage inflicted upon this community by that one woman. Four cases happened to come under my notice. How many went to other physicians, how many went without treatment altogether, how many infected innocent wives, or became the parents of children foredoomed to disease, to idiocy, or to crime, there is no way of determining. One thing, however, is certain, and that is, that if by any means that sore could have been discovered within a day or two of its appearance, and that woman forcibly and peremptorily isolated, and kept so while she suffered from contagious lesions, most, if not all, of this endless and ever-widening series of evils could have been absolutely prevented.

I would respectfully remind those gentlemen who, admitting the gravity of syphilis as a disease of the individual, are sceptical as to the extent of its diffusion, that the medical profession throughout the world is almost a unit upon this subject, and that there are to-day very few if any influential medical journals which do not directly or inferentially support in the main the views here expressed, not only as to the evils of syphilis, but also, I may add, as to the propriety and necessity of combating them. This concurrence of opinion on the part of those who, it will not be denied, are by education and occu-

pation the most competent judges, is of itself an argument which merits due consideration.†

In regard to the number of prostitutes, it is known that there are at present in New York City twelve to fifteen thousand women who are either living publicly in brothels or are in some other manner securing their livelihood by the more or less open sale of their bodies.

In this city the number is probably not much less: indeed, if it were not that I desire to avoid the appearance of straining after effect, I should be inclined to place it rather higher.

Ten years ago it was carefully estimated that there were at least one hundred thousand harlots in the United States;‡ and twelve years ago, after a most elaborate comparison of statistics, a very careful and conservative writer placed "the total number of women who live wholly or in part by means of prostitution in the United Kingdom" at 368,000.§ Think for a moment of the number of men these women annually entertain, recall the evil ignorantly wrought by a single one of them, remember the multitudes already infected and helping to spread the disease, and then permit me to assume as demonstrated the great importance of this subject to the community and to the nation.||

† "If I believed that the effects of disease resulting from the unhealthy illicit intercourse of the sexes could be confined to the persons who had originally transgressed, nothing would induce me to prevent the removal of the Contagious Diseases Acts from the statute-book; but, confident as I am that this is not so, I feel that it is our bounden duty to endeavor by all means at our disposal to check the ravages of a disease that is the greatest scourge that could afflict humanity,—that stalks in secret throughout the length and breadth of the land, affecting not only the guilty, but the innocent and the unborn, the peer and the peasant, and which destroys the health, blights the happiness, and involves in wretchedness and ruin its miserable victims."—Inaugural Address of Dr. Chaplin, President of the Royal College of Surgeons, Ireland, Session of 1881-2, Medical Press and Circular, December 14, 1881.

‡ Shall the Spread of Syphilitic Poison be Prevented? By Geo. H. Swayze, M.D. Medical and Surgical Reporter, October 6, 1877.

§ Westminster Review, July, 1869.

|| I desire to quote here a few sentences from a private letter recently written by the Hon. Samuel Powel, a former trustee of the University of Pennsylvania, and an ex-member of the Rhode Island Senate. I have selected his utterances in reference to prostitution from those of many other non-medical men in this country because he has been in no sense a partisan or advocate in the matter, and has never joined in the discussions which have been so bitter and so frequent; and also because it seems to me that his large legislative experience and active interest in sanitary matters make him a fit representative of that class of the community whose interest it is most desirable to arouse: "Although the subject is one which inspires every human being with boundless horror, it still, from the days of Solomon himself, has been a most serious and terrible problem, enlisting the thoughts and efforts of the best men, as it will surely continue to do to the farthest limits of all coming time. . . . We must take the world and humanity as we find them, and, as history and prescience assure us that we cannot *cur* the evil in question, we must endeavor to abate its consequences in every practical and

* "The average duration of life among these women does not exceed four years from the beginning of their career. There are, as in all cases, exceptions to this rule; but it is a tolerably well established fact that one-fourth of the total number of abandoned women in this city die every year."—Sanger, *op. cit.* This is unquestionably somewhat exaggerated; but when all classes, including the very lowest prostitutes, are included in the estimate, the mortality among them is certainly much greater than that of the outside population. It does not follow, however, that it is invariably or even chiefly due to syphilis, their general mode of life being a powerful factor in the production of disease.

In taking up the consideration of the possible means by which the dissemination of syphilis may be limited or arrested, it may at once be admitted that no method has as yet been devised which is in all respects unobjectionable or is capable of universal application. I may add here also that, while advocating the general principle of supervisory legislation as applied to prostitution, and endeavoring in the time allotted to me to controvert the main objections to it, I am fully conscious that in the details of every plan yet proposed there has been much that was defective or positively harmful, and that the subject is still one of the unsolved sanitary problems of the age.* The direction in which action must be taken, and the general character of that action, may nevertheless be indicated, if not demonstrated.

We may begin, therefore, without much fear of contradiction, by urging the necessity of a more general and more accurate public knowledge concerning the gravity and the prevalence of this disease. The innocent, who are also in this respect the ignorant, members of the community, have claims which we, who seek to fulfil the highest function of our profession,—the preservation of health, individual and national,—cannot conscientiously disregard.† Every adult citizen should be aware,

material way. The possibility of this is proven by well-authenticated statistics and tabulation of important results, both direct and indirect, already attained. . . . The Quixotic tilers against this vice must know that they have never even partially or remotely affected its prevalence: why not, then, give these poor creatures the one foot of common ground upon which they and their medical and spiritual aid can stand in common? It is false to say this is legalizing vice: it is making it feel the contact of the law and the mercy of the law, and it is doing the best the law has yet been able to do to mitigate the social evil and reclaim its outcasts."

As bearing directly upon Mr. Powel's expression of opinion, I make the following extract from the minutes of evidence taken before the Select Committee on Contagious Diseases Acts (see p. 242). Examination of the Rev. Henry Reed, a Catholic priest attached for nine years to the Lock Hospital, Cork. "I think that great moral influence has been brought to bear on fallen women in a manner in which it could not have been brought to bear before these Acts. Before they were introduced, a priest was completely separated from these women. He could not go to the houses where they lived, except in the greatest necessity,—when one of them was in danger of death. When these Acts were introduced, he was able to meet them every day, to speak to them, to come into contact with them, and to use his influence as a priest on them."

* "Twenty years' experience has demonstrated that the resistance offered by syphilis to the measures adopted for its limitation is due to the insufficiency of those measures."—M. Diday, quoted by Belhomme and Martin, *De la Syphilis*, Paris, 1876.

† "This is especially the case among the lower classes, untaught by lectures, conversation, and newspaper advertisements, and paying less heed to general hygiene and personal cleanliness. The workman, thinking of his daily bread, is less upon the watch, and lacks time and money to make an immediate application to the physician. Most frequently of all, women are the sufferers, on account of the culpable negligence on the part of their natural instructors.

for his own sake, of the possibilities of contamination which surround him; every parent should be competent to protect his wife or his children from indirect infection through a servant or playmate, a household utensil or a toy; every wife should know that by permitting the approaches of a syphilitic husband she herself becomes liable to the disease, and to the creation of a being which has few chances for life and almost none at all for health or happiness; and every syphilitic should realize that, except after certain intervals and under proper restrictions, his marriage is an outrage to the woman he professes to love, and a crime against society.‡

Once let these facts be clearly understood, and this information widely diffused, and an important step will have been taken not only in preventing accidental and guiltless contagion, but also in preparing public opinion for the legislative measures which are believed to be desirable. Another good result would in all probability be a diminution in the number of cases of this class of disease, who, in ignorance of the gravity of their ailment, consult the quacks and irregular practitioners who find here their favorite and most lucrative field. It is safe to say that the fees of the patients with venereal disease annually treated by charlatans, advertising doctors, and apothecaries in this city would comfortably support all those younger members of the profession into whose hands they ought naturally to fall, and who now undergo the usual struggle for existence.

For these reasons—first, and especially, the public welfare, and next our own personal interests—we should in every proper way encourage the presentation of this matter to the community at large, by means, for example, of discussions in

"The crass ignorance of that class which busies itself about a speculative future rather than an actual present is an important cause of the non-recognition of the presence of syphilis. For this class the idea of syphilis is inseparably connected with that of sexual commerce with an infected individual, and is considered as clear proof of chronic debauchery. Of a non-venereal origin persons of this class have no suspicion. The initial lesion occurring elsewhere than upon the genitals is attributed to some other cause, and the disease is allowed to run its terrible course."—Fournier, *Gazette des Hôpitaux*, August 8, 1878, quoted by Dr. Edward Wigglesworth, *Boston Medical and Surgical Journal*, December 19, 1878.

‡ "The protection of society constitutes the capital predominant indication, superior to every other consideration, and this, because this indication responds to interests of a general order, because it tends to a result which ought to be the aim of our common and constant efforts, viz., to prevent the diffusion of syphilis by confining it to its sources of origin, by preventing it from being spread abroad and disseminating its germs of contagion."—Fournier, *Syphilis et Mariage*.

health societies, by proper representations to editors of the daily press, and by careful but truthful and forcible statements to our friends and patients, who are frequently eager for information on the subject.*

Having, as far as possible, closed the accidental avenues of infection, we are brought face to face with the fact that, although many cases may thus be prevented, by far the most frequent mode of transmission of syphilis is illicit sexual intercourse, carried on largely by means of a multitude of women who thereby earn a livelihood, and by a still larger number of men who furnish their means of support.

This fact has given rise in many countries to numerous efforts at legal control and supervision of the vice. The different enactments by which prostitution is or may be regulated, and the variations required for different countries and peoples, form a subject so extended that volumes could be written upon it: volumes, indeed, have already been written.† The general fundamental principles, however, which have been observed or advocated require the registration of each prostitute, her inspection once every week or ten days by a competent medical officer, her sequestration whenever she is found to have any contagious disease, and her retention until she is completely cured; together with, in some proposed laws, the examination of all immigrants before admission to the country, and their treatment and cure if found diseased.‡

* Acton, of London, in an essay read as long ago as 1873 before the British Medical Association, stated that "without an intimate acquaintance with the laws of syphilis no one can venture to legislate on what are now known as contagious diseases: the passage of acts bearing upon those diseases must be attributed to the attention which has been called to the frequency and severity of syphilis. On sanitary grounds, twenty-seven hundred medical men have during the last session urged the continuance of these acts. In fact, no one now contests the beneficial influence of their operation on public health. The acts have a moral tendency; the disease may perhaps be stamped out."—Quoted by Dr. Kennard, in a paper on the "Public Prophylaxis of Syphilis," *St. Louis Medical and Surgical Journal*, July, 1878.

† The Committee of the American Public Health Association (Dr. Gihon, Chairman) which reported at New Orleans, November 7-10, 1880, offered the following resolution: "That the American Public Health Association earnestly recommends the municipal and State Boards of Health to urge upon the legislative bodies of this country the enactment of a law constituting it a criminal offence to knowingly communicate, or to be instrumental in communicating, by any direct or indirect means, a contagious disease, such as smallpox, scarlet fever, or venereal disease, and giving to said Boards of Health and to the State and municipal and health officials under their control the same power in the prevention, detection, suppression, and gratuitous treatment of venereal affections which they now possess in the case of smallpox and other contagious diseases."

‡ J. Marion Sims, M.D., *Legislation and Contagious Diseases*, Philadelphia, 1876. "In an able speech delivered by Senator Sargent in the United States Senate on the 1st of May, 1876, on the existing treaty between China and this country, he brings forward testimony to show that of the one

In France, legislation extends to the civil as well as the military population.§

In England, the Contagious Diseases Acts, in force since 1866, are applied only to certain seaport towns and military posts, and are intended for the benefit of the sailor and the soldier.

In this country the experiment was tried in St. Louis, where the ordinance for controlling prostitution embraced something of the Parisian system, but was an improvement upon it in several respects. This ordinance, which was in force some years back, and then was repealed, gave the board of health and police department authority for the registration of all prostitutes, provided for their periodical examination by official physicians, and gave the power to isolate in the female hospital those found to be diseased. The women were compelled to pay a weekly stipend, which was expended solely for their benefit and went to the support of their hospital. They were entitled to care in this institution, not only when suffering from venereal disease, but also when sick from other causes.|| "After this scheme had been in successful operation for a length of time, the point was raised, especially by the clergy, that this was nothing more than a licensing of prostitution, and therefore an infamous compact with sin and Satan. This class of moralists was reinforced by others, who claimed that the physical explorations were a degradation to the sex generally, and insisted that these examinations should be extended to male offenders against morality as well. These various arguments the legislature conceived to be of sufficient cogency to cause the downfall of the system, and in its stead a mon-

hundred and fifty thousand Chinese on the Pacific slope there are not a hundred families, and that ninety-nine hundredths of the Chinese women imported into California are sold and held as slaves,—slaves to be used wholly and solely for the purpose of prostitution. According to the evidence of Dr. Toland, even boys eight and ten years old have been syphilized by these degraded wretches, who are allowed to openly solicit in the streets of San Francisco."

§ One of the defects connected with the Parisian system of control seems to have been a careless or improper exercise of power on the part of the magistrates to whom this authority has been delegated. Accordingly, we find that December 18, 1880, the Municipal Council of Paris resolved, by a vote of 33 to 12, to abolish the *special* police for the enforcement of regulations referring to the control of prostitution; to prepare a plan for the establishment of gratuitous medical and pharmaceutical service for the treatment of syphilitic disease, and also to prepare a system of organization which will substitute the ordinary police for the present "Police of Morals" in everything concerning the preservation of public order in relation to prostitution. The same change has been made, it is said, at Brussels.—*N. Y. Medical Record*, April 23, 1881; *Bulletin Continental*, January 15, 1880.

|| This hospital was subsequently converted into a woman's general hospital.

grel sort of repressive bill was passed. Under this new act the brothels of the city have been constantly raided by the police, the women taken before the justices and fined, or, in lieu of payment, sent to the workhouse for a term of weeks."*

* Boston Medical Journal, January 9, 1879. See p. 243.

In reference to the present powers of the police in New York and the difficulties which now surround the preservation of even the semblance of decency, see an article in the *New York Times*, May 5, 1879.

The reports of the Special Committee on the Prevention of Venereal Diseases just submitted to the American Public Health Association, and the minority report offered by Dr. Morris,—to whose courtesy I am indebted for this information,—are given in substance below. They indicate better than I possibly could otherwise the difficulties which surround the subject, and also, I am glad to say, the thoughtful consideration which it is awakening.

REPORT OF THE SPECIAL COMMITTEE ON THE PREVENTION OF VENEREAL DISEASES.

The report of the special committee, made to the Association at New Orleans last year, was chiefly devoted to a detail of the sufferings brought on society and the evils wrought to the State by the unchecked spread of venereal poison throughout our vast country. Some suggestions were made in a general way as to the proper means to arrest this great scourge, but no definite plan was suggested looking to legislation on the subject by the different States or general government. It has been the labor of the committee since that time to devise and frame such enactments as would secure the end proposed and at the same time meet with popular favor and acceptance. This has not been an easy task. The subject is a delicate and trying one, and great difficulties beset all efforts to bring it to the knowledge of the people, and particularly to those who are engaged in making our laws. It is proposed, however, in the coming winter to submit to a few of the legislatures of the States bills of a proper character, which it is hoped will be passed by these bodies. This will be a tentative measure, and will, even if not successful, serve to bring the whole matter before the people of the country, and be a means of enlightening them in regard to the great evils with which they are surrounded.

Your committee have been greatly encouraged in the prosecution of their labors by the evidence furnished by the late Select Committee of the British Parliament appointed to examine into the workings of the Contagious Diseases Acts of Great Britain. This testimony shows conclusively the great advantage to society to be derived from the operations of legal enactments on this subject. From the evidence of many gentlemen, including clergymen of the highest standing, it has been shown that not only has disease been greatly lessened, but a very decided moral improvement has been brought about in the lives of those subject to the operation of the law.

Your committee have been restricted in the preparation of a law by the character of the resolution adopted at the last meeting, as well as by the spirit of the discussion which took place on that occasion. They have therefore confined themselves, in the preparation of a legislative act, to the exact wording of that resolution.

Respectfully submitted.

DRS. GIBON, HOLLIDAY, MORRIS, ETC.

AN ACT entitled *An Act to Prevent the Spread of Contagious Diseases.*

ARTICLE I.—Be it enacted, by the General Assembly of Maryland, that any person who shall knowingly communicate, or be instrumental in communicating, by any direct or indirect means, a contagious disease, such as smallpox, scarlet fever, or venereal disease, shall be deemed guilty of a misdemeanor, and shall be subject, upon conviction in any of the circuit courts of the counties of this State, or in the criminal court of the city of Baltimore, to a punishment of six months' imprisonment in the House of Correction of the State of Maryland.

ARTICLE II.—And be it further enacted, That if any person being the owner or occupier of any house, room, or place within the limits of this State, having reasonable cause to believe any person to be affected with a contagious disease, induces or suffers such person to remain or to be in that house, room, or place, he shall be deemed guilty of a misdemeanor, and on summary conviction in any of the circuit courts of the counties of this State, or in the criminal court of the city of Baltimore, be subject to a penalty not exceeding one hundred dollars for each and every offence.

It may be admitted at once that if the total abolition of prostitution could be accomplished, and if it could be followed by the conversion of this army of harlots into peaceful housekeepers or sisters of charity, and the transformation of their male patrons into pure law-abiding citizens and fathers of families, it would be a consummation devoutly to be wished.

No one, however, at the present day, with perhaps the exception of a few im-

ARTICLE III.—And be it further enacted, That the State Board of Health, with the approval of the Governor, and the Health Board of the city of Baltimore, with the approval of the Mayor, shall have power to remove to an hospital or hospitals all persons suffering from contagious diseases who from failure to take proper precautions imperil the health of the community.

ARTICLE IV.—And be it further enacted, That this Act shall go into effect on the first day of May, 1882.

Minority Report.

The undersigned, whilst agreeing entirely with the views submitted in the report of the Committee on the Prevention of Venereal Diseases, and approving of the proposed Act submitted by that Committee, as far as it goes, does not believe that the provisions of the Act are sufficiently comprehensive to effect the desired end, and he therefore begs leave to submit the draft of a law wider in range and more specific in character,—a law which, if carried out, he believes will greatly inure to the health of the community and the well-being of society.

In the Act appended it has been provided, as a first step, that all persons engaged in habits of prostitution shall be registered. This, as a police regulation, will add very much to the safety of the people. It will be compulsory upon all those visiting, as well as those living in, houses of prostitution. It is well known that the women most dangerous to the health of the community frequent, but do not live in, houses of ill fame. It is important that this very dangerous class should be brought under police surveillance. The very fact of their being compelled to register their names will deter them from visiting houses of prostitution, and thus the number of secret prostitutes will be much reduced. This procedure is not at all arbitrary, but a necessary police arrangement. The burglar, the thief, the bank-robber, the counterfeiter, and all persons known to the police as dangerous to society, are compelled to submit to inspection, and to be photographed for future identification. The prostitute may very properly be ranked among the dangerous classes, and her personal conduct should be a matter of police supervision. She should be watched and guarded, and, as far as possible, prevented from plying her occupation to the detriment of the public health. Her registration is the first step towards this end. The medical examination and the detention in the hospital, when necessary, are the only means by which her existence can be made tolerable in the community. In framing the Act, the undersigned has provided as far as possible against interfering with the liberty of the subject, and has endeavored to make the burdens of the Act bear as lightly as possible upon those brought under its provisions. He has, therefore, provided that an examination by any medical gentleman of good standing, made at stated periods, will be sufficient to exempt women from an examination by the public officer of health. How far this will prove effective in carrying out the intentions of the Committee remains to be seen. It was, however, thought best to insert this clause, so that the Act might be rendered less objectionable to many persons who oppose public examinations of women. Should it prove after trial that this privilege should be withdrawn, the Act can be amended at some future day. It will be observed that the undersigned has avoided in the proposed law any system of licensing prostitution, a feature which has appeared objectionable in all laws heretofore enacted on the subject. It will also be observed that no tax is imposed or no charge made for medical services to those coming under the provisions of the bill. It is solely a State sanitary measure, intended not only for the good of those subject to the law, but for the community at large.

Respectfully submitted,

JOHN MORRIS, M.D.

The law appended to this report consists of sixteen sections, will not admit of further condensation, and will shortly be published in the Proceedings of the American Public Health Association.

practical clergymen and a number of enthusiastic and well-meaning but misguided women, believes in the possibility of attaining such an end. The accumulated experience of mankind constitutes a wall of unanswerable argument. All attempts at the extinction of prostitution present throughout the centuries one unbroken record of failure. Wherever this scheme has been tried, the sexual impulse, the strongest to which human nature is subject, has asserted itself, and other laws have been violated, other and graver evils have resulted. The remedy has proved worse than the disease. Seduction, illegitimacy, criminal abortion, and infanticide have invariably followed, and the total or average morality of the community has been seriously impaired.* "It has been called the most licentious city in Europe," writes Bayard Taylor of Stockholm, "and, I have no doubt, with perfect justice. Very nearly half the registered births are illegitimate, to say nothing of the illegitimate children born in wedlock. I have never seen any place where licentiousness was so open and avowed and yet where the slang of a sham morality was so prevalent. There are no houses of prostitution in Stockholm: the city would be scandalized at the idea of allowing such a thing. A few years ago two were established, and the fact was no sooner known than a virtuous mob arose and violently pulled them down." Another example of many will afford additional illustration. Since the Reformation the city of Berlin has made three attempts in this

direction, in 1717, 1796, and 1845, and on each occasion with seriously harmful results. In regard to the last attempt I will quote a paragraph from the official report of the consequences of the experiment: "The licensed houses, twenty-six in number, were closed, in opposition to the remonstrance of the police. Their three hundred inhabitants, as well as all other females without ostensible means of support, were banished. But unnatural offences, self-abuse, secret prostitution, and illegitimate births became so common and syphilis so much more than ever severe and frequent that General Von Wrangel, who was in command of the troops stationed at that post, was induced to make a forcible appeal on behalf of the army's health against the quasi improved order of things. The number of females who had entered the venereal hospital had at this time risen thirty-three per cent., and that of the males about thirty-one per cent."

Constantine, Justinian, Louis IX. of France, and Philip IV. of Spain, at different eras in the world's history, attempted the repression of prostitution, and endeavored to enforce it with all the powers of army, Church, and State at their backs; but in each instance the attempt was a conspicuous and a complete failure,† as it was also in Austria, Bavaria, Rome, and Paris, where the same experiment was tried on different occasions.

It would not be difficult to enlarge upon this branch of our subject, or indefinitely to multiply arguments to demonstrate the inexorable demand which has been manifested since the beginning of time for some irregular outlet for the animal passions of the human species.

It was taught ages ago, by the fathers of Christianity, that "concupiscence, or the sensual passion, was the original sin of human nature;" and the progress of knowledge has only served to confirm and give force to this early theological view. While, however, nature has always asserted herself powerfully and in some instances al-

* These facts have been recognized repeatedly by legislative bodies. One example in this country will suffice. In February, 1876, the committee of the New York Legislature appointed to investigate the causes of the increase of crime, after considering the whole question, reported as follows:

"Brought face to face with this fact, the question remains for the legislative body of this State to decide whether or not it is wise to continue the nominal legal ban under which prostitution is placed, to close the eyes of the law-making power to a fact which their hearts cannot ignore, and, putting aside all considerations of local welfare, of the greatest happiness of the greatest number, to go on in the future as they have in the past,—taking no steps toward permanent or healthy reforms. Whatever may be the odium incurred by the suggestion among honest people who have not mingled with the world, who are ignorant of its passions and of their fatal effect,—the committee are willing to take it upon themselves in earnestly recommending to the Legislature the regulating or permitting, or, if the word be not deemed offensive, the licensing, of prostitution.

"In the interest of the well-being, the decorum, the decency of society; in the interest of the peace and happiness of by far the greatest number of people; in the interest of the preservation of the purity of the guardians of the public peace; in the interest of public health and for the sake of thousands yet unborn, the committee earnestly urge upon the Legislature, as the only means of grappling with the social evil, the granting to the police the power of regulation, of localization, and medical visitation."—*New York Evening Post*, February, 17, 1876.

† "The foregoing review of the several forms of prostitution in Rome demonstrates beyond the possibility of dispute that the experiment of forcibly repressing or prohibiting prostitution, which was tried long and persistently by the Papal government, is in every respect a complete failure, and thus attests, along with the like experiments formerly made in Spain, Austria, Bavaria, Paris, Berlin, and Stockholm, the utter futility of the method of treatment hitherto applied, and seemingly dictated by the principles of Christian purism, as a remedy for the social evil in question, and therefore as a means of preventing or of extirpating the diseases associated with and propagated by it."—*Westminster Review*, July, 1876.

most uncontrollably at an early age, and would seem, therefore, to have in an unequivocal manner urged the human race to early marriages, the first tendency of an advancing civilization in populous countries is to restrain or diminish them. In no highly-civilized society to-day is marriage general on the first development of the passions; and the continual influence of increasing knowledge, from the time of the Greek moralists to that of Malthus, has been to render such marriages more and more rare.*

It is also beyond question that however much moralists, whether pagan or Christian, have endeavored to enforce the obligation of chastity, this endeavor, at any rate among the unmarried, has never been even partly successful, and during all eras, and among all races of mankind, an enormous amount of illicit indulgence has occurred, and will in all human probability continue to occur until time shall be no more. Under these conditions, created, developed, and nurtured by the conflict between the instincts of the individual on the one hand and the necessary restraints of society and of religion on the other, we find the prostitute in some ages acknowledged and courted, the friend and companion of philosophers, the guide of Pericles, the intellectual equal of Socrates,† controlling directly or indirectly armies and senates, in England, in many instances, the recognized ruler of royalty, in France the central figure of society and the progenitor of princely houses, in Russia condemning nobles to the mines of Siberia or restoring them to liberty by her more than imperial influence, in Italy the handmaid of Popes and the mother of cardinals. At these times, and in these exceptional instances, her life would appear not undesirable, or in some respects even attractive; but behind these few central and glittering figures in all times and

during all epochs there has invariably lain, "uncontrolled, undiscussed, and unalleviated," a festering mass of crime, degradation, and disease, which is a never-ending reproach to mankind and to morality.

Many of the evils which have arisen and still arise from the existence of these lower strata of prostitutes are unquestionably due to the persistent manner in which sanitarians, legislators, and society at large have ignored them,—a behavior dictated by unreal modesty and unsound religion, and for which society has, through the devastation of preventable disease, been punished a hundredfold. The recognition of prostitution by the State for purposes of control does not in the slightest degree convey the idea of approval or encouragement, as is often asserted by those in opposition. Laws authorizing certain individuals to sell liquor upon the payment of stated fees, or after complying with definite requirements, do not compel those persons to engage in the liquor-traffic, and cannot be considered as promoting intemperance. They recognize the fact that liquors *will* be sold in spite of all efforts to the contrary, and endeavor to bring the evil within proper limits by *forbidding* all persons, except those voluntarily placing themselves under certain restrictions, to enter into that business. They are plainly deterring influences, and are so regarded by all except the Utopian reformers who hope to abolish intemperance entirely in its manifold forms. The parallel as regards the subject we have in hand is a very close one, and the inference is obvious.‡

* "We have been gratified to find in one of our religious periodicals, 'The Church of England Pulpit and Ecclesiastical Review,' an ably written and temperate article on the Contagious Diseases Acts. It appears to have been elicited by the meeting to which we recently called attention, 'for the abolition of the government regulation of vice.' It shows clearly that no such 'regulation' exists in this country; that the objects of the Acts are to prevent, as far as can be done by legislation, the spread of a most fearful disease. They in fact *restrict and discourage* prostitution. They have hitherto been condemned in unmeasured terms by a section of the clergy, and we are glad to find that some of that body are prepared to defend them from a conviction that they are beneficial to the people, and are neither 'unjust, immoral, or unscriptural in their provisions.'"—*The Lancet*, July 9, 1881.

† At the Ninth Annual Meeting of the American Public Health Association, convened at Savannah, Georgia, November 29, 1881, the secretary read a communication from the New York Committee of the "International Federation" for the abolition of government regulation of prostitution. It was the earnest desire of the federation that the American Public Health Association co-operate with it in "securing the abolition of all licensed prostitution, as it was a promoter of vice and accomplished no good purpose." It may here be remarked that this committee evidently labors under a misapprehension in regard to the interest and action taken by the American Public Health Association for the prevention of venereal diseases. No proposition to regulate or license

* "Among the checks on excessive multiplication, the historical influence of voluntary continence has been, it must be feared, very small. The nearly universal custom of early marriages among the Irish peasantry has alone rendered possible their high standard of female chastity; but these very marriages are among the most conspicuous proofs of the national improvidence. Had the Irish peasants been less chaste, they would have been more prosperous."—*Lecky, History of European Morals*.

† "The courtesan was the one free woman of Athens, and she often availed herself of her freedom to acquire a degree of knowledge which enabled her to add to her other charms an intense intellectual fascination. Gathering around her the most brilliant artists, poets, historians, and philosophers, she flung herself unreservedly into the intellectual and æsthetic enthusiasm of her time, and soon became the centre of a literary society of matchless splendor."—*Lecky, op. cit.*

It is taught from the pulpit that "the wages of sin is death," that disease follows transgression as a divine retribution, and that to diminish the risk of an offence against morality is to encourage vice.* Does any one suppose that the gentlemen who use these arguments would be willing to follow them to their legitimate conclusion and *encourage* disease in order that each transgressor should be *certain* of receiving his due punishment? But the whole tone of thought implied by their attitude is so foreign to a proper professional spirit that it is only necessary to mention it to medical men to secure its condemnation.† Tracts and circulars are distributed protesting against any legal restriction of prostitution short of its extinction, and advocating midnight missions and other missionary measures for its abolition,—a truly homœopathic remedy, by means of which not one woman in a thousand can be reached and not one in ten thousand can be reclaimed. The total number of women admitted into the Magdalen Society's Home in Philadelphia in 1876 was twenty-one. During the same year there

prostitution has ever been proposed to, or entertained by, the Association. The short but whole purport of its action, through the energetic committee headed by Dr. Gihon, may be found in the resolution adopted at the eighth meeting." (See p. 231.)

* "The law for regulating the evil has been and is now opposed on purely moral grounds, the sanitary side of the question being completely ignored: indeed, one prominent moralist went so far as to say that if we were able by any legislative enactment to succeed in exterminating venereal disease, we should be committing the sin of 'deposing God's judiciary and police, established by him to check this great evil.'"—*St. Louis Journal*, January 9, 1879.

† "It is one of the characteristics of modern thought, and would seem to be a striking trait of the most recent development of intense humanitarianism, that the pursuit of the highest good for the greatest number is peculiarly apt to be accompanied with intolerance of the needs of special classes of the community. It is nothing to the impulsive reformer that human nature is, and always will be, so constituted that it must needs be saved from the consequences of its own wrong-doing. These optimist moralists will hear of no concession to weakness, and spurn the thought of conceding anything to the exigencies of our imperfect state. They would not have given so much as a cup of cold water to either of the impenitent thieves, and would have shrunk with horror from the prayer of the devils that they might pass into a herd of swine. Hagar might have perished with her ill-gotten babe in the wilderness, Jonah would have been left to die in the sun, and the manslayer might have been overtaken by the avenger, before one of the agitators against the Contagious Diseases Acts, or any other provision for lightening the so-called 'penalties of sin,' would have striven to help them. The argument would have been, These thieves deserve their punishment, and it will encourage others if we relieve their sufferings. These evil spirits have no claim to our compassion; and we must, for example's sake, turn a deaf ear to their beseechings. If such characters as Hagar are relieved, and the children of their shame rescued from destitution, vice will be fostered. Those who take life must pay the penalty; it will increase the crime to reduce the punishment; even the disobedience of a prophet must be visited with its due recompense. This is precisely how the agitators argue against the Contagious Diseases Acts, against founding asylums, and other measures to reduce the contingent social and personal effects and penalties of vice. It is no use trying to convince those who can find satisfaction in such reasoning."—*London Lancet*, June 25, 1881.

were known to the chief of police about twelve thousand prostitutes residing in the city and subsisting by their trade.‡

Societies are formed to resist the regulation of houses of prostitution as subversive of morality, and the compulsory examination of their inmates as degrading and unjust. One of their favorite arguments is to the effect that, if immoral women are to be treated in this manner, men of the same character should be treated likewise, and that by examining the loose women and exempting the men who patronize them we are making an unfair distinction in favor of the latter, permitting the man to sin with impunity, or to occupy unrebuked a lower moral platform than the woman.

In reply, it may be said simply that it is *practicable* to examine the women who offer themselves for hire; it is not possible to submit the whole male population to similar inspection.§

In regard to the asserted recognition of the moral inequality of the sexes and the

‡ Shall the Spread of Syphilitic Poison be Prevented? Medical and Surgical Reporter, October, 6, 1877. Even in this direction, however, the control of prostitution is productive of good results, as is evident from the following extract from the reported evidence of Rev. Henry Reed before the Select Committee, June 27, 1881. (See p. 230.)

Q. "Your opinion is that but for the operation of these Acts, and the agencies which they have introduced, it would be impossible for you to have brought good influences to bear upon these women?" A. "There is a fact with regard to the city of Cork, which may in a measure answer that. The year before the introduction of the Acts there was only one Magdalen Asylum conducted by the Sisters of Charity, in which there were eighty women. When the Government Acts were being introduced, it struck the priors that there were a large number of conversions made through the instrumentality of the Acts. The bishops then invited the Sisters of the Good Shepherd to open another Magdalen Asylum, and the result is that at present the number in Peacock-lane under the Sisters of Charity is 80, and the number in the New Magdalen is 150 or 160."

§ In a volume of 240 pages, Mr. William Logan, author of "Moral Statistics of Glasgow," reviews the evils of prostitution, and offers, after much criticism of other measures, the following suggestions as to the best means of prevention: "I. Let procuresses be punished by the strong arm of the law.

"II. Place the supporters of brothels on the same level in society with fallen women

"III. Increase the stringency of the law for enabling the people to deal more easily with brothel-keepers.

"IV. The owners of property who have knowingly let their houses for brothels ought to be punished by the authorities.

"V. Prostitutes ought to be strictly prohibited from parading the streets, especially after dusk.

"VI. Extend the means of education.

"VII. Let prudent marriages be encouraged.

"VIII. Promote the temperance reformation.

"IX. Encourage the operation of town and city missions.

"X. Let mothers and daughters lend a helping hand to the fallen and the penitent.

"XI. Increase the number of probationary penitentiaries, homes, and Magdalen institutions.

"XII. Let the press lift its voice against the great evil.

"XIII. Let ministers of the gospel bring this and kindred vices more frequently before their congregations."

I quote these propositions in full as an illustration of the vagueness and inconsequence of many of the thoroughly charitable and benevolent opponents of legislative control, among whom it is needless to say Mr. Logan is to be numbered.

implied condonement of that sin on the part of the male which is to be restricted and supervised when committed by the female, I am glad to say that I believe such an inequality does exist, and I hope that until by some spiritual cataclysm the mass of mankind is vastly improved and purified it always will exist. This moral difference between the sexes is, however, capable of rational explanation: there is no mystery about it in the light of modern philosophy, and, if time permitted, it could be shown that it is as truly a product of external forces and conditions during successive stages of civilization as is language or jurisprudence.*

As regards the alleged illegal interference with the liberty of the individual, involved in the forced inspection of the prostitute, there seems to be no question that much more marked interference takes place in other directions without exciting unfavorable criticism, and that the argument is not based on sound legal grounds. The right of the state to protect the health and lives of its citizens by every available means is universally conceded, and there certainly could be no more urgent need for the exercise of that right than exists in the problem before us.†

It is urged, too, that the false sense of security which may be established in the minds of young men who are cognizant of the supervision and examination of prostitutes will be a powerful encouragement to vice, while at the same time it must be admitted, by every one practically familiar with the subject, that many forms of venereal disease in females, and, above all, the initial lesions of syphilis, are difficult of recognition. This, however, is again an argument directed rather against a defective system. If the facts, plain and unvarnished, were once fully

* The Vicar of Portsmouth, whose opinions upon this subject have attracted great attention (see p. 241), when questioned as to whether it did not seem unjust that women should be compulsorily examined for the benefit of men, said that "to a certain extent it did seem so, but that, on the other hand, it must be remembered that it was still more for the benefit of women, and especially for the benefit of posterity; and that though the individual liberty of the women was interfered with, still the remedy was always in the women's own hands: they had only to give up the life they were leading."—*Medical Times and Gazette*, July 23, 1881.

† "The interference by means of these Acts with the liberty of the subject is only such as may be fully justified in the interests of public health, and is not greater than is enforced every day in the cases of dangerous trades. If the principle be acknowledged that the interests of the great mass of the people ought to be protected, even at the cost of inconvenience to the few who for selfish motives carry on dangerous trades and health-destroying occupations, then there cannot be a question that the Contagious Diseases Acts are justifiable."—*London Lancet*, July 9, 1881.

recognized and understood by the community,—if every young man knew, as he should know, that *in spite* of careful examination there was still a possibility, not by any means remote, that he would contract syphilis,—it may be doubted whether there would be much increase of illicit copulation. On the other hand, although all sores are not discoverable, very many are; and, as the disease spreads, as has been shown, in a geometrical ratio, the cutting off of even one source of infection would counterbalance, in its physical effects, a decided increase in numbers of those exposed to contagion.‡

Another objection is, that the feelings of the women are outraged by the compulsory examination made under the law, and that they are degraded by being known as "prostitutes" and so spoken of.

The committee appointed in London by the Admiralty to inquire into the best mode of diminishing the injurious effects of venereal disease on the men of the army and navy reported§ as follows in regard to this point:

"The evidence shows that in one most important point the 'Contagious Diseases Prevention Act' has proved successful, and in just that particular in which it might *a priori* have been expected to fail,—viz., that which relates to the feelings of the unfortunate women with whom it has to deal: so far from opposing its operation, they appear to appreciate its value to themselves. Magisterial interference is the exception."

I have had some personal experience in this direction, having, as may be remembered, been violently assailed for "exposing" two patients from the venereal wards of Blockley before a mixed class and speaking of them then and there as prostitutes. I can only say that no one was more surprised to hear of this alleged outrage than were the women themselves, who, when questioned, expressed decided preference for being lectured upon, as it made a break in the monotony of their lives, and, as they

‡ "The Rev. Prebendary Wilkinson, D.D., for eleven years Vicar of St. Andrew's, Plymouth, had been induced actively to support the Acts by the good he had seen to result from them. He did not consider that immorality was in any way fostered among men owing to a feeling of security given by the knowledge that these regulations were in force. If it were possible that such a feeling did prevail in a very slight degree, the absence of solicitation in the streets was an advantage that quite counterbalanced it."—*The British Medical Journal*, July 16, 1881.

§ Report of Committee. Printed for her Majesty's Stationery Office. London, 1867.

imagined, secured for them unusual attention.* I quote on this subject, however, the words of Mrs. Hoggan, a woman who is brave enough to say what she thinks, who has taken a deep interest in the matter, and who for other reasons is opposed to legislative supervision. She says, "I believe that if care were taken in the choice of medical inspectors, and that if evidence of a conclusive kind were required as to the fact of prostitution in the women, these latter ought not to be regarded as aggrieved persons. The womanly sensibilities of prostitutes are, as a rule, not wounded by such an examination as they are forced to submit to. It must be remembered that they are carrying on a lucrative trade which involves much personal exposure and is likely to blunt the particular form of delicacy in question. They have no claim to escape control of a reasonable character, or to injure unproved the health of the community."

Neither can it be urged with any force that the establishment of free hospitals and of gratuitous medical service for the treatment of syphilis would *greatly* lessen the prevalence of the disease, at any rate among prostitutes and their associates. The testimony of all hospital surgeons, to which I wish to add my own, is to the effect that the lower classes of venereal patients seek relief only when symptoms are urgent, and stop treatment at the earliest possible moment, usually when but half cured.† At the Liverpool Lock Hos-

pital, where everything was done to make the wards attractive and the patients' sojourn a pleasant one, no hard work being required and no penalties imposed, the result was such as to induce Mr. Frederick W. Lowndes, M.R.C.S., surgeon to the hospital, to write as follows:‡

"Nothing can be more disheartening to all concerned in the working of voluntary Lock hospitals than to witness daily their comparative uselessness as sanitary institutions, so far at least as the female wards are concerned. Writing in 1870, Mr. James R. Lane, Senior Surgeon to the London Lock Hospital, says, 'Voluntary Lock hospitals may afford charitable relief to the individual sufferers, but from a sanitary point of view I believe them to be absolutely useless. From long experience of these women, I know them to be, with rare exceptions, far too reckless of consequences to apply for admission and to seclude themselves for treatment until their disease has reached a stage which renders it impossible for them to pursue their calling any longer, and until they have done all the mischief of which they are capable.'§

"The experiences of my colleagues and myself at the Liverpool Lock Hospital confirm the above remarks almost word for word. The male wards are, with rare exceptions, filled all the year round, mostly with cases of constitutional syphilis. On the other hand, the female wards are rarely filled, and then only for a very short time. The appearance of the women on admission shows that they have mostly been diseased for a very long time, and it is too evident that they have come, not because they are diseased, but because they are so diseased as to be unable to continue their calling. When the disease is comparatively slight and recent, I have observed that it is generally of a character to give pain when intercourse is attempted; such as an ulcer on the fourchette with an unusually contracted vagina."||

* "As to the effect of the examination on these women, it will be seen, by any one taking the trouble to inquire, that their habits, dress, and manners have been much improved. With very few exceptions, they come freely to the examining-room. When they try to avoid attending, it is not because they feel themselves debased by doing so, but that they fear being sent to the hospital; for, generally speaking, such women are careless about cleanliness and consequently more prone to disease."—Chaplin, *op. cit.*

† Since writing this paper, I have seen a sad and striking example of this fact in my practice, but among a better class of women than I referred to above. A girl living in a house of prostitution in a most respectable portion of the city was suspected by two of my patients of having been the source of their syphilis. Their testimony was almost conclusive, but, to quiet the doubts of one, I called to examine her, and found that she had left the house. I got, however, a description of her condition from the proprietress, which still further confirmed my opinion. Two days later, by means of this description, never having seen her before, I recognized her among my cases in the female venereal ward of the Philadelphia Hospital, and she confessed, in the presence of my residents and several medical gentlemen who were accompanying me in my rounds, to her identity. She had a large number of mucous patches, in various stages, completely encircling the vulva, and several of them undoubtedly of weeks' duration. It was not possible or conceivable that at the dates of infection she was ignorant of her condition, and she came into the hospital only when turned out of the house in which she had been plying her trade, and after making an ineffectual effort to enter a private family as servant. Within a day or two I have learned of a third victim. On January 3 she was delivered of a dead child.

‡ British Medical Journal, May 15, 1880.

§ In 1878 Mr. Lane repeated this opinion, and said that he was entirely convinced that "nothing but compulsory periodical examination of prostitutes and compulsory detention in hospital until cured will have any material effect in diminishing the prevalence of venereal disease among the population."

|| "I believe that without periodical examination these Acts would be useless. Some come voluntarily to the hospital when disease prevents them from carrying on their trade; but I am confident that, unless compelled, few would be found to seek admission there in the early stages of disease before they had contaminated others, and when their retirement there would have largely benefited themselves."—Chaplin, *op. cit.*

In Philadelphia, at the present day, there are, so far as I know, no special accommodations for the reception of this class of patients outside of the venereal wards of the Philadelphia Hospital. These, although excellent in their way, suffer greatly, as do all the other wards of that institution, from their association with the Almshouse. The stigma of pauperism is avoided as long as possible by even the most degraded among the men, and women as a rule seek refuge there only when driven by the direst necessity or the most serious ravages of disease.*

In most of the other hospitals such cases are either refused admission or strongly discouraged, not from lack of benevolence or compassion, but because the means of these institutions are limited and must be devoted to those who seem most deserving. Out-door relief may be obtained at numerous places; but every surgeon who has ever had charge of a dispensary knows how insufficient and unsatisfactory is treatment under these circumstances. The fact seems to be that the general reluctance to approach or handle this subject appears to have extended to those who in all other directions have shown the widest charity and the most sincere desire to ameliorate human suffering. No one will question the pre-eminent usefulness of the asylums and hospitals for sick and crippled children, which appeal so directly and universally to our sympathies, and which are, fortunately, increasing rapidly in numbers and in wealth. Surely, however, here, if anywhere, prevention is better than cure; and it must be due to ignorance of the chief cause of all this suffering that no asylums have been erected, no hospitals endowed, no wards set apart, for the treatment and

* Even these accommodations are wanting, however, in many of our American cities,—in those, too, where one would most expect to find provision for the sick and suffering of all classes.

In the tenth annual report of the Massachusetts State Board of Health, Dr. C. F. Folsom, in an admirable paper, says, "If control of syphilis and prostitution seems impracticable in the present state of our public feeling, there is at least one thing which should be done, and that is to give facilities for hospital treatment to the sufferers from venereal disease. In the opinion of the board, this need is now an urgent one in our State, which, if properly met, may be the means of doing great good. With all its noble charities, Boston is an exception to the general rule of large cities, in that it does not properly provide for the treatment of the most contagious disease known,—one, too, in which the results are so far-reaching and disastrous that they are often felt for a lifetime, and in succeeding generations visiting the innocent frequently with greater severity than the guilty."

"To the shame of Boston it must be said that at present for such disease there is neither a hospital nor yet even a ward in any general hospital in the city, and many suffering patients are actually refused admittance into existing institutions, and left to spread this most dreadful of maladies throughout the community."

cure of the very large number of fathers and mothers who now ignorantly perpetuate their disease, and many of whom, exclusive of the prostitutes and the most vicious of the men, would gladly avail themselves of such opportunities. While, therefore, regarding the establishment of hospitals and of gratuitous medical service as an insufficient means of prevention, I yet recognize the great good which may be wrought through their aid, and respectfully urge the necessity for some action in this direction, either as a preliminary or as an adjuvant to more radical and far-reaching measures. Here, at least, opposition will be to a great extent disarmed.

The foregoing arguments, which I have endeavored to answer as I enumerated them, are those upon which the opponents of legislation for the proper restriction of prostitution and the prevention of syphilis chiefly rest their case. It is true they assert in addition that there has been no evidence of improvement in countries or towns where such legislation has been enforced; but I shall give a few facts which go far towards demonstrating the falsity of this assertion.

Before leaving this branch of the subject, however, it should be added that in the opinion of many distinguished writers society is under such obligation to the prostitute population as, apart from considerations of its own safety, should impel it to protect them, as far as possible, from the ravages of disease.

Mr. Lecky, in his scholarly and impartial "History of European Morals," has forcibly stated this view of the case. After considering the causes of prostitution, he continues thus: "Under these circumstances there has arisen in society a figure which is certainly the most mournful, and in some respects the most awful, upon which the eye of the moralist can dwell. That unhappy being whose very name is a shame to speak,—who counterfeits with a cold heart the transports of affection and submits herself as the passive instrument of lust,—who is scorned and insulted as the vilest of her sex, and doomed for the most part to disease and abject wretchedness and an early death,—appears in every age as the perpetual symbol of the degradation and the sinfulness of man. Herself the supreme type of vice, she is ultimately the most efficient guardian of virtue. But for her, the unchallenged purity of countless happy homes would be polluted, and not a

few who, in the pride of their untempted chastity, think of her with an indignant shudder, would have known the agony of remorse and of despair. On that one degraded and ignoble form are concentrated the passions that might have filled the world with shame. She remains, while civilizations rise and fall, the eternal priestess of humanity, blasted for the sins of the people."

It may be added, also, that however repulsive in individual cases women of this class may chance to be, and however revolting and disgraceful their lives may appear, they are not always, perhaps not generally, of those whose dispositions seem naturally incapable of virtue.

Parent-Duchatelet, the great French authority upon this subject, observes that they are remarkable for their kindness to one another in sickness or distress; that they are not unfrequently charitable; that children among them are always the objects of great interest and affection; that most of them have lovers to whom they are as faithful as their unhappy mode of life will permit, and to whom they are sincerely attached; and that many of them have entered into that mode of life for the purpose of supporting aged parents.* It may be observed that this author is not a romance-writer or a theorist. He is simply a physician who describes the results of a very large official experience; and no one who has come in professional contact with many of these women can for a moment doubt the truth of his remarks.†

We have also the testimony of a woman and a lady in the same direction. Miss Mulock, in an essay entitled "A Woman's Thoughts about Women," records that in her own experience, and in that of all others who had had charge of young girls, it was observable that of those who were seduced an extremely large proportion were, to use her own language, "of the very best, refined, intelligent, truthful, and affectionate," and were often led astray quite as much by the ardor of their affections and the vivacity of their intelligence as by any vicious propensities.

The statistics of prostitution in both Europe and America show that a great proportion of those who have fallen into it have been impelled by the most extreme

poverty, in many instances verging upon starvation.‡

Time will not permit me to follow this line of thought any further; but enough has been said to show that it is practically impossible to abolish prostitution; that society should recognize and control it, both for its own sake and for that of the prostitutes themselves, who are at least worthy of sanitary protection; that the objections to such recognition seem in many respects sentimental and illogical, and that, however this form of vice may be ignored, it nevertheless exists, and on a most gigantic scale. We should remember, too, that "evil rarely assumes more inveterate and perverted forms than when it is shrouded in obscurity and veiled by a hypocritical appearance of unconsciousness."

We have seen that this state of affairs suffices to perpetuate and extend a disease, the most dreadful existing among mankind, which communicates itself from the guilty husband to the innocent wife, transmits its taint to her offspring, and spreads unchecked through all classes of society. I propose now to present briefly a few of the results which have been attained where legislative and sanitary measures have been adopted.

I had intended to give in each instance authority for the following assertions, but am compelled, for want of time, to ask you to believe that they rest upon excellent and often upon unassailable evidence. Opposing arguments have, indeed, been based upon the same facts, or rather upon portions of them; but, as you are aware, statistics frequently permit of ingenious distortion and may be used with much apparent force to lead to totally incorrect conclusions; and I shall therefore ask permission of the Society to add to this paper when it appears in print such references and citations as may serve to confirm or strengthen these statements, any inaccuracies or exaggerations in which I shall be glad to have pointed out and will cheerfully correct.

† Dr. George H. Swayze, Medical and Surgical Reporter, October 13, 1877. Out of three thousand prostitutes carefully examined in Paris some years ago, only thirty-five were found to be able to earn a living in any other manner.—Legouvé, *Histoire Morale des Femmes*, pp. 322, 323. Parent-Duchatelet says that when the parents of such girls could be found they were usually in the depths of misery, often dying of hunger.—*Op. cit.*, vol. i. p. 411. Sanger found that among two thousand prostitutes in New York, sixteen hundred and ninety-eight depended solely on their trade, three hundred and two having some other means of support.—*Op. cit.*, p. 523.

* De la Prostitution dans la Ville de Paris, vol. i. pp. 103-102, Paris, 1837.

† See Lecky, *Op. cit.*, vol. ii. p. 286.

The scope of this article will, of course, not permit of anything like a detailed review of the results of police regulation of prostitution in Europe; and indeed I shall now only allude to facts which I had hoped to give *in extenso*.

In France, the proportion of venereal disease among the troops was only one-fourth of that found in the English army before the operation of the Contagious Diseases Acts in the latter country.

In Paris, among the registered prostitutes, one in twenty-five has venereal disease; among those who are unregistered but are under surveillance, one in four.*

In Bordeaux, the proportion of registered women found diseased has never exceeded eighteen per one thousand during the last eight years, while of the clandestine prostitutes three hundred and fifty to five hundred in one thousand were affected. Almost the same figures apply to the prostitutes of Rotterdam.

In Belgium and in Prussia, since the State has undertaken the duty of regulation the following facts have been noted. I give them as officially reported:

1. Clandestine prostitution has diminished.

2. The diseases have assumed a milder character, and the average period of stay in hospital has been correspondingly reduced.

3. Unregistered or clandestine prostitutes are affected most frequently and with the severer forms of syphilis.

4. The average number of men in military service who acquire disease is much less.

5. The women exhibit a better sanitary condition, greater cleanliness and self-respect, than ever before, and many of them are annually reclaimed.

6. The form of disease most diminished or modified is that in which society in general is most concerned, namely, the syphilitic.

In Japan, previous to 1869, the percentage of cases admitted to hospitals for syphilis in Yokohama was 24.4; in that year legal preventive measures were enforced, and since then the admissions have been reduced to about 11 per cent.†

* "Fournier, one of the ablest of living syphilographers, declared to Medical-Director Coues that syphilis had been virtually stamped out of Paris, when the advent of the German army reintroduced it; but he expressed his confidence that it would again be stamped out as before."

† Medical and Surgical Reporter, October 18, 1881.

In an elaborate report made by commissioners appointed to inquire into the workings of the Contagious Diseases Acts,‡ I find a number of interesting facts about prostitution and syphilis in China.

Two of the three commissioners,—one a clergyman,—after a sweeping condemnation of the Acts, add, "But as the high naval and military medical authorities to whom we referred the papers have, upon the same facts and figures as we have founded our opinions on, arrived at conclusions as to the sanitary results of the ordinances which do not coincide with our own, and as we fully recognize the value of those conclusions," etc., etc. The third member of the committee—a lawyer—was of the opinion that the Acts had "conduced greatly to a modification of the type of venereal disease in the Colony, and had tended much to check its spread."

In ten years, the Surgeon-General of the Navy is authority for stating, "the amount of venereal disease on the Asiatic station has fallen from 425.8 per thousand to 112.1,—a difference of 313.7 per thousand, due to the examination of prostitutes practised at Hong-Kong and in Japan, and the seclusion of infected women in lock hospitals."§

In England, the Contagious Diseases Acts, which excited the most virulent opposition, and against which petitions were presented signed by thousands of the clergymen of the Church of England and by their parishioners and followers to the number of two millions, have been productive of the most beneficial results.

The original Act, which was very limited in its application and defective in some essential particulars, was amended and much amplified and improved in accordance with the report of the committee appointed by the Lords of the Admiralty to investigate the subject. This committee included a number of physicians and surgeons whose personal character and professional attainments had made them the leading expounders of medical and sanitary science in Great Britain.||

These Acts and their workings are of especial importance to us in our endeavor to arrive at a fair conclusion, because they represent the results attained among the

‡ And which fills a quarto volume of 313 pages, kindly brought to me from Hong-Kong by Dr. John M. Keating.

§ Report of Committee on Prevention of Venereal Diseases, Boston, 1881.

|| Report of Committee. See page 242.

people who most closely resemble us in laws, manners, and morals, and also because they have been subjected to scathing and unsparing criticism. At present it is only necessary to inquire into the testimony as to their actual effect, chiefly upon the army and navy, for whose benefit they were passed. If it be admitted that they have done good work and have lessened disease under these circumstances, which is, I believe, a fact demonstrated beyond all present doubt, there seems to be no sound reason why the same or similar laws should not produce corresponding results when applied to larger numbers of people. If these Acts, when enforced in naval stations and garrison towns, lessen syphilitic disease in a certain stratum of prostitutes and among their male acquaintances, it would appear that at least among the same classes outside they would be equally useful. Their wider application would doubtless necessitate some modification; it is possible that they would at first reach and benefit only a limited number of women of the worse sort. The existence of other but minor objections may be acknowledged: the fact remains, throwing aside all debatable points, that among English-speaking people the spread of syphilis has been measurably prevented by legislative interference, and that public morality and public health have been equally and markedly subversed by enactments which were intended only for the good of a very small class of the community.*

Sir James Trelawney asserts that they are the most benevolent laws ever passed in that country, and Dr. Brewer, after ample opportunities of observation, declares that they did more good in three years, not only in preventing disease but also in reforming prostitutes, than had ever been accomplished by the united efforts of the aggregated missionary societies of Great Britain.

* The clerical gentlemen examined by the Select Committee of the House of Commons, a portion of whose testimony is quoted farther on, at first regarded the Acts with suspicion, if not with absolute repugnance, but are now unanimous as to the benefit effected in the towns in which they reside. "They agree in the opinion that to the operation of the Acts is due a large decrease in the amount of open immorality and clandestine prostitution, and that if they were repealed private prostitution would largely increase. It is especially on the reclamation of fallen women that they lay great stress, and each of the witnesses adduced instances from his own knowledge of the value of the Acts in this important particular. The alternative of voluntary hospitals for compulsory detention was thought by them to be most unsatisfactory: women would not enter them, much less be detained in them. With regard to the abuse of their powers by the police, they were also unanimous: they knew of no single authenticated case in which this had taken place."—*The Lancet*, July 30, 1881.

In the report of the Devonport surgeons to the Lords of the Admiralty, they say, in reply to some objections, that "the percentage of syphilis has steadily and greatly diminished since the system of inspection was begun."

Mr. Tremayne, chairman of the Parliamentary committee, and representative of a constituency opposed to the Acts, was yet courageous enough to say that "no person could accurately weigh the evidence which public returns supplied without coming to the conclusion that the Acts were a necessity and were highly beneficial."†

The Vicar of Portsmouth, the Rev. E. P. Grant, to whose honor be it said that he allowed his common sense to rise superior to his prejudices, wrote, in 1873, after some years' observance of the effects of inspection, that "the number of brothels are reduced to one-half," "the women cleaner and more orderly, and much fewer in number, in spite of the increasing population;" that the percentage of disease among registered women is 7.3 per cent., among unregistered women 74 per cent.; and that he knows nothing which could take the place of restrictive legislation in so preventing disease and immorality. On June 20, 1881, he repeated still more strongly all these statements, his opinions having been confirmed and intensified by eight years' additional experience.‡

Mr. Wm. Thomson, a Dublin surgeon, reports that in ten years there was a de-

† "The average result for the last ten years is that, where the Acts were in force, the admissions for primary venereal sores have been 44 per 1000, and for gonorrhœa 80 per 1000; in the large stations where they were not applied, the hospital admissions for primary sores were 101 per 1000, and for gonorrhœa 97 per 1000. During this period the loss by men being under treatment in hospital for this disease at the fourteen stations under the Act was 3.48 per 1000; while at the fourteen other large stations not under the Act the loss was more than double as much, viz., 8.04 per 1000. With such statistics in evidence, based as they are on accumulated facts, of the correctness of which, from the manner in which they are furnished, there cannot be any honestly reasonable doubt, it becomes difficult to understand how figures can be quoted, whatever other arguments may be urged against the application of the Contagious Diseases Acts to the garrisons in which troops are quartered, in support of the opposition to them, as those who wish to put a stop to the Acts sometimes do."—*British Medical Journal*, November 26, 1881.

‡ Another clergyman, the Rev. Thomas Puffield, of Woolwich, a member of the board of guardians, as well as of most other local bodies, has manfully announced before the committee of the House of Commons, whose labors have just concluded, that although in supporting the Contagious Diseases Acts he was opposing the views of his brother ministers and was suffering in popularity, he was yet unable to resist the strong conviction which had forced itself upon him. Living in a district where the Acts were in force, he speaks of the "more orderly condition of the streets; the diminished number of common women; the more decent and cleanly appearance of those few who were seen; the greater ease with which they could be approached with a view to their reclamation," etc.—*British Medical Journal*, July 9, 1881.

crease of 3028 women living as prostitutes in that city.*

Mr. Berkeley Hill, after a careful examination of the statistics, shows that the number of persons infected and the number of those dying from syphilis have decreased one-fifth in the district under the Contagious Diseases Acts, while during the same time in the rest of England the diseases and the deaths from this cause have increased one-fifth.

Mr. Hill says also, "The influence of these Acts in diminishing prostitution, both by preventing the fall of the inexperienced or viciously inclined, and by assisting to an honorable mode of life those who have already sunk into prostitution, is even more remarkable than their effect on the physical health of the persons subject to their provisions." The beneficial effects are also very obvious as regards the general civil population, exclusive of the soldiers, sailors, and prostitutes.†

Mr. James R. Lane, who has had thirty years' experience as surgeon to one of the largest venereal hospitals in England, asserts‡ that the results of the exhaustive inquiry of the Committee of the House of Commons, made during the last two years, will be such as to satisfy the public at large of the great benefits which the Acts have already brought about,‡ and to show the unfounded and untruthful nature of the statements directed against them. He thinks it worthy of remark that the fanatical and unscrupulous opposition, promoted chiefly by platform agitators, has been most active in places remote from the working of the Acts and where they were not practically known, whereas a great majority of the inhabitants of seaport and garrison towns

fully understand and appreciate their advantages and are most anxious that they should be maintained.||

In reply to this, it is said that the effect of the Acts is to drive the prostitute population from the localities thus controlled into the neighboring districts, the inhabitants of which suffer accordingly. This is not admitted by the advocates of legislative control;¶ but, even if it were, it

§ Surgeon-General Lawson, who testified before the Select Committee on the Contagious Diseases Acts on four occasions, after giving his opinion strongly in their favor, added that, even if it were granted that the Acts had been a failure as regards constitutional syphilis, it would be worth while to maintain them in order to check the local venereal sores which so often incapacitate the soldier from service. Dr. Lawson had been summoned before the committee to reply to assertions made by Dr. Birbeck Nevins, who attacked the official returns of the army medical department and has been one of the comparatively few prominent medical opponents of the Acts.

The *British Medical Journal*, May 14, 1881, remarks, "During a four-days' examination, the accuracy of Dr. Lawson's testimony has remained unshaken. His thorough acquaintance with the mass of complicated calculations involved has been most remarkable, while he has dealt with the whole subject in a spirit of the strictest impartiality and fairness;" and under date of June 4, after a review of Dr. Nevins's testimony before the committee, adds, "This part of Dr. Nevins's evidence, after all, amounts to no more than this: that, in his opinion, the great decrease which he admits to have taken place in venereal sores at the subjected stations as compared with the others is due, not in any way to the Acts, but entirely to the different degree of the completeness with which the sanitary improvements have been carried out at the two sets of places. He confessed that he had no personal knowledge of either, and was unable to state from his own observation that any such difference in degree really does exist."

¶ The *London Lancet*, May 7, 1881, after commenting upon the report of the Commissioners of Metropolitan Police for 1880, makes the following extract from it:

"The removals from the register are of great interest, and are thus classified: 927 left the district, 67 married, 262 entered homes, 629 returned to their friends, and 22 died. The mortality is extremely small, for during the past five years it has remained steadily at less than 6 per 1000. The amount of obstruction to the Acts on the part of the women themselves was so small that in only eleven cases was it necessary to apply to the magistrate for an order. *Imported disease from unprotected places figures largely in the returns, inasmuch as out of 612 prostitutes who were known to have arrived from places outside the Acts, 404 (66 per cent.) were found on their first medical examination to be diseased, and a large proportion of them seriously.* These imported cases form nearly a fourth of the total number of women (1849) admitted to the various lock hospitals during the year, and they are especially fruitful in spreading venereal diseases, as there is no possibility of reaching them until they are discovered by the police and brought up for medical examination. With regard to the work of reclamation, the beneficial value of which can scarcely be estimated, we find 93 young girls under eighteen, 86 women under thirty, and 7 above that age have been rescued from bad company and immoral places. Of these, 13 were under fifteen years of age. Besides these, 174 had commenced an immoral life, but abandoned it on being cautioned, and are therefore not registered. Of these, 4 were under fifteen and 45 under eighteen years of age. The difference between the amount of disease in those who were examined for the first time and those who were on the register from the previous year is very startling, and deserves great attention from the advocates of repeal, for in the former case 40.95 per cent. were found to be diseased, whilst in the latter it amounted to only about 8. The number of the women in both classes were so nearly equal as to prevent the statistics being vitiated by any error of average numbers."

This point is so frequently disputed, and is of so much importance in an estimation of the value of legislation, that I add other corroborative evidence:

"The annual report of the Assistant Commissioner of Police of the Metropolis, for the year 1880, relating to contagious diseases, recently issued, states that the police specially employed under the Acts have discharged their duties to his entire satisfaction; not a single case of excess or violation of duty had been brought to notice; 1624 women have

* Swayze, *op. cit.*

† Syphilis and Local Contagious Diseases, London, October, 1881.

Inspector Silas Rendel Annis, whose duties required him to carry out for the last sixteen years the Contagious Diseases Acts in a district included in a radius of ten miles from Devonport and Plymouth, testified that during that time—1865–81—the reduction of disease in the civil population affected by the Acts was represented by a drop from 826 to 43.—Report of Select Committee, London, July 28, 1881.

‡ Lectures on Syphilis, London, January, 1881.

§ After an elaborate review of this report of the Committee of the House, the *British Medical Journal* says, editorially, "From all this it is evident that the repeal of the Acts would be most disastrous to the various districts which have the advantage of their beneficial working; while nothing could be more desirable than their extension, at least to all the garrison towns and naval seaports to which they have not as yet been applied."

I have had, through the kindness of Medical Director A. L. Gihon, an opportunity of carefully studying the voluminous preliminary report (quarto, pp. 492) submitted by this committee to the House, July 28, 1881, and believe it to be sufficient in itself to convince an impartial investigator of the great usefulness of the Acts. I regret that want of space prevents me from making copious extracts from the testimony.

would show only a defect inherent in the *partial application* of the law, and not vitally affecting it.

In St. Louis, at the expiration of two years, the chief of police reported that the number of public women had uniformly decreased each year (46 per cent. in the first eight months); that soliciting upon the streets had been almost entirely discontinued; that a considerable number of the women had been reclaimed; that private prostitution had been materially checked; that juvenile prostitution was almost wholly removed; that deaths among the registered women had largely decreased, and that disease was in a great measure prevented.*

In Nashville, during 1863-64-65, regulations were adopted for the benefit of the troops stationed there, and the prostitutes were examined once every ten days. Col. Fletcher, of the Surgeon-General's Office, U.S.A., writes to a committee investigating this subject: "1. The amount of venereal disease was markedly lessened. 2. The women, who were at first rebellious, became quite reconciled to the system. 3. It was self-supporting, the fees paying the expenses of the hospital."

been registered for the first time during the year, *many coming from the unprotected districts*; the number of women remaining on the register at the end of the year was 84 more than in the preceding year. This is consequent upon there being a lesser number removed from the register during the year as compared with the number registered. A total decrease of 2973 has, however, taken place since the Acts came into operation. Ninety-three young girls between the ages of twelve and eighteen, 86 women between the ages of eighteen and thirty, and 7 above that age, who had been found in bad company and improper places, have been rescued. The number of houses has been reduced this year by 3, showing a total decrease of 871 within the protected districts since the Acts were put in operation."—*Medical Times and Gazette*, May 14, 1881.

"Some of the worst cases admitted [into the Kildare Lock Hospital, 1870-1879] came from Dublin or other places outside the district. They were cases of bad primary and secondary syphilis, condylomata, mucous patches, and warts, the latter being accompanied with filthy and profuse discharge; they were such as if not immediately admitted to hospital would inflict fearful havoc.

"A careful scrutiny of the admissions for primary syphilis caught within and without the districts [of Curragh and Newbridge, stations under the Acts] by the different regiments shows that they generally bring disease with them from unprotected places. The Forty-seventh Regiment remained at Curragh for two years and left it without having a single case in it."—*The Medical Press and Circular*, December 14, 1881.

* A letter from St. Louis, quoted in the *Boston Medical and Surgical Journal*, April 24, 1879, argues in favor of the re-enactment of this ordinance, which had been "hawked at and killed by pseudo-moralists," and remarks, "When we compare the old law, in its sanitary and police aspects, with the present state of things, we seem to be a perfect Sodom or Gomorrah. Those most competent to form an intelligent and conscientious opinion advocate its re-establishment: the police, for it kept vice within due bounds; the moralist, for publicity prevented prostitution, and registration afforded the opportunity of seeking and saving those who were not already lost, but only on the road to ruin; the physician, for venereal disease was notably decreased; and the scientific sanitarian, for protection was afforded to the innocent indirectly threatened by the very existence of this disease."

But there can be no necessity for continuing further in this direction. If the facts already mentioned are not sufficient to carry conviction with them, their mere multiplication would probably be no more successful.

Let me, however, recapitulate the points which seem to me of chief importance:

1st. That in syphilis we are dealing with a disease of great antiquity, and one having no tendency to become extinct, but, on the other hand, likely to continue indefinitely.

2d. That this disease already affects an almost incredible number of the population, and that by means of its many forms of inoculation and transmission it is rapidly spreading still farther.

3d. That the existing means for its treatment among the poorer classes are lamentably insufficient, and that the establishment of institutions for that purpose or the endowment of special wards in our general hospitals is a measure eminently worthy the attention of the public-spirited and benevolent.

4th. That its most common mode of propagation is by irregular or illicit sexual intercourse, and that therefore we should turn our main efforts at prevention in this direction, while endeavoring at the same time and in every decent and proper manner to guard the community at large from the effects of ignorance.

5th. That prostitution, arising in response to the demand for this illicit indulgence, has, like syphilis, existed from time immemorial, and is not likely to disappear.

6th. That prostitutes themselves need protection and have claims on the humanity of the law.

7th. That by means of supervisory legislation and control of prostitution the unlawful sexual commerce of the world may most readily be restricted and the spread of this disease prevented.

8th. That there is sufficient evidence to prove that such control and restriction, though surrounded with difficulties, are yet possible, and that the advantages to be derived from them are definite and highly important.

9th. That it is, therefore, advisable that this Society, representing perhaps more fully than any other the sanitary interests of our population of nearly a million, should carefully investigate this momentous problem, and should be prepared to assume and

maintain in regard to it a definite and well-grounded position before the profession and the public.*

In concluding these remarks, and begging the indulgence of the Society for the time consumed, I trust that I may at least consider that you agree with me in regarding the subject not as one of remote importance, to be speculated upon as if of general scientific and sanitarian interest but not otherwise affecting us individually, but rather as of immediate and grave significance to us, as members of households into which, before we rejoin them, syphilis may have been conveyed by the kiss of a friend or the finger of a servant; as fellow-workers in a profession which, from the time of John Hunter to the present day, has numbered more *innocent* victims of this disease than any other class of the community;† as the natural guardians and protectors of the public health; and, finally, as citizens of a country in whose progress and prosperity we all have an abiding faith, but which is annually losing, through preventable illness and death, an inconceivable amount of national strength and vitality.‡

* Nearly half a century ago the eloquent French writer already quoted thus concluded an appeal to the administration of that day: "Pursue relentlessly the diseases propagated by prostitution, aiming to wipe them off the list of human infirmities. The success which will surely crown such efforts will be the outcome of many years of toil, for which you and your successors should arm yourselves with indomitable perseverance, and of which future generations will reap the fruits. Since you cannot prevent the existence of prostitutes, diminish the evils caused by them. Bewail, if you choose, the sad necessity of tolerating a state of affairs so contrary to preconceived ideas of social propriety, but beware how you aggravate it by neglect or imprudence."—*Parent-Duchatelet, op. cit.*, vol. ii. p. 544.

† "There is something worse than death, and such a thing seems to us to be sent, though innocent, shipwrecked in health and an outcast into the world, with the brand of sin and licentiousness on the forehead. Recently the English journals have discussed the infection of doctors by syphilitic patients, and some very sad cases have been related,—one, especially, in which a highly-educated, brilliant, and most correct man became a wanderer and almost a Pariah through the action of a virulent infection upon body and mind. Cases of this character are not so rare as some imagine. A prominent surgeon said not long since, in our hearing, that he had seen three within a short time."—*Editorial on the Dangers of the Medical Profession, Philadelphia Medical Times*, June 26, 1875.

‡ For articles presenting the views of those who object to the legal control of prostitution as a means of limiting the spread of syphilis, or representing opinions in other respects at variance with those here expressed, see—

State Regulation of Vice, by Aaron M. Powell. New York, Wood & Holbrook, 1878, pp. 127.

The Great Social Evil: its Causes, Extent, Result, and Remedies. By Wm. Logan. London, Hodder & Stoughton, 1871.

Compulsory Medication of Prostitutes by the State. Published by the New York Committee for the Prevention of Licensed Prostitution. Mrs. Abbey Hooper Gibbons, President, 111 West Forty-fourth Street, New York.

Articles in *The Sanitarian* for July, September, and October, 1881.

Reasons in Support of the Bill for the Repeal of the Contagious Diseases Acts. London, 1878.

Upon motion of the writer, the discussion of this paper was postponed for one year, and a committee of seven was appointed to investigate the subject thoroughly, and to report upon it to the Society at that time. This committee is in no way pledged to support the views herein set forth, and indeed numbers among its members several who are earnest opponents of legislative interference. Its object will be to give an impartial and comprehensive statement of the results of the attempts already made, to point out the defects or advantages of the several methods employed, and to ascertain what measures, if any, may, consistently with law and morality, be adopted in this and other cities of the United States to arrest the spread of syphilitic disease. Health reports, police and hospital statistics, articles advocating or controverting the opinions which have been here expressed, or references to such articles, or to any source of information bearing upon this matter, are respectfully solicited, and may be sent to any member of the committee, which is constituted as follows: Dr. Albert H. Smith, Dr. John Ashhurst, Jr., Dr. Samuel Ashhurst, Dr. R. A. Cleemann, Dr. M. S. French, Dr. G. B. Swayze, Dr. J. William White, Chairman, 222 SOUTH SIXTEENTH STREET, PHILADELPHIA.

A CASE OF DESTRUCTION OF THE CORPUS STRIATUM WITHOUT SYMPTOMS.—In the *Deutsche Zeitschrift f. Klinische Medizin*, xxvi. p. 520, Honegger narrates the case of a patient, aged 56, who had formerly suffered with rheumatism, and who was admitted to treatment for various symptoms, such as pain in the abdomen, headache, etc. The examination showed chronic nephritis, endarteritis, and hypertrophy of the heart to be present. The patient was not paralyzed in any part of his body, and denied ever having been so. He died of marasmus, and upon post-mortem examination the following condition was found. In the left corpus striatum a focus or softening extended in to some depth, a similar focus in the thalamus of the size of a lentil, and one of the same size in the upper part of the lenticular body. The whole section of the nucleus caudatus, the upper part of the lenticular body, and the part of the internal capsule between them, were completely destroyed. The centrum ovale was affected for a distance of two centimetres around the focus.—*Pacific Medical and Surgical Journal*.

Communications in the *Medical Press and Circular*, December 10 and December 26, 1877, and in the *British Medical Journal* and *London Lancet* of various dates.

Prostitution and its Sanitary Management, by Edmund Andrews, M.D. St. Louis, 1871.

Preventing the Extension of Syphilis, by J. K. Black, M.D. Newark, Ohio.

Enquiry into the Condition of Prostitution and the Alleged Influence of the Contagious Diseases Acts, by G. B. Nevins, M.D. Liverpool, 1876.

Evidence of Messrs. Henry Lee, M'Call, Krause, and others before the Select Committee of the House of Commons, July 28, 1881.

SOME REMARKS ON THE PATHOLOGY OF INTRA-NASAL HYPERTROPHIES.

Read before the Pathological Society of Philadelphia, at their Conversational Meeting, held November 10, 1881,

BY CARL SEILER, M.D.,

Lecturer on Laryngology at the University of Pennsylvania, Pathologist to the Presbyterian Hospital, Curator of the Pathological Society, etc.

IN spite of the common occurrence of nasal diseases, very little is known about the pathological conditions giving rise to them. The cause of this want of knowledge must be sought in the fact that all portions of the nasal cavities cannot be explored in the living subject, and that, nasal diseases being but rarely fatal, this portion of the body is not, as a rule, included in post-mortem examinations made with a view to determine the cause of death in other diseases; and even in those cases in which it would have been practicable to disfigure the face of the subject by an exploration of the nose, very few investigators have taken the trouble and time to do so. It is true that since the introduction and perfection of the rhinoscope, as well as of the improved methods of inspecting the nasal cavities from in front, much has been discovered which goes to explain the symptoms we notice in nasal diseases; yet there is still a large field left unexplored; and to take a step or two upon the broad expanse of this *terra incognita* is the object of these remarks.

Before, however, entering upon the consideration of the pathological conditions, allow me to say a few words about the anatomy of the nasal cavities and the histology of their lining mucous membrane.

The nasal cavities, which are wedge-shaped, with a narrow arched roof, extend from the nostrils to the upper portion of the vault of the pharynx. Their outer walls are formed by the nasal process of the superior maxillary and lachrymal bones in front, in the middle by the ethmoid and inner surface of the superior maxillary bones, behind by the vertical plate of the palat bone and the internal pterygoid process of the sphenoid and the turbinated bones. These latter run from before backward, three on each side, and are designated as the inferior, middle, and superior, the latter being the smallest of the three. The spaces or sinuses between these turbinated bones are called meatuses: so that the space between the floor of the nose and

the lower turbinated bone is called the inferior meatus, the one between the lower and middle turbinated bones is the middle meatus, and the one between the middle and superior turbinated bones is the superior meatus.

The nasal cavities are separated from each other by a septum or division-wall, composed of the perpendicular plate of the ethmoid bone and the vomer posteriorly and the cartilaginous septum anteriorly, thus presenting a smooth surface as the inner wall of each cavity.

The floor is formed by the palatine process of the superior maxillary bone and by the palate bone, and runs in a slanting downward direction from before backward. The roof is formed by the nasal bones and nasal spine of the frontal in front, in the middle by the cribriform plate of the ethmoid, and posteriorly by the under surface of the body of the sphenoid bone. Directly communicating with the nasal cavities by narrow channels are other cavities, situated in the bones of the skull, the lining mucous membrane of which no doubt is largely affected by the pathological processes in nasal diseases: these are the antra of Highmore,—large triangular cavities situated in the body of the superior maxillary bone and communicating with the nasal cavities by an irregularly-shaped opening in the middle meatus; then the frontal sinuses,—two irregular cavities situated between the two tables of the frontal bone. The communication between them and the nasal cavities is established by the infundibulum,—a round opening in the middle meatus,—and finally the sphenoidal cells or sinuses found in the body of the sphenoid bone, communicating with the nasal cavities by small openings in the superior meatus.

That portion of the nasal cavities which projects beyond the end of the nasal bone is surrounded by cartilages forming the alæ of the nose.

Malformations in the bony walls of the nasal cavities are by no means rare, and the most common of them is deviation of the septum. This is so frequent that Semmeler found the septum straight in only ten out of forty-nine skulls examined, and Allen* found the nasal chambers normal in eighteen out of fifty-eight adult skulls examined. This deviation of the septum

* American Journal of the Medical Sciences, January, 1880, p. 70.

must in a great measure be attributed to the fact that at birth both the vertical plate of the ethmoid bone and the cribriform plate are not as yet ossified, and do not become rigid until a much later period of life, and may therefore be easily distorted by external violence applied to the nose by blows or falls. The act of blowing and wiping the nose with the handkerchief must also be considered as a factor in the production of deviation of the septum.

In the cartilaginous septum of the lower animals we find a small cavity lined with mucous membrane, called, after its discoverer, Jacobson's organ, the minute anatomy of which has lately been described by Kline.* This organ in man is, however, only rudimentary.

The nasal cavities are lined with mucous membrane, which varies greatly in thickness in different localities, and which materially decreases the size of the cavities in the living subject from that seen in the denuded skull. This mucous membrane is covered by ciliated epithelium in man, with the exception of that portion which lines the vestibule,—i.e., that portion of the cavities of the nose surrounded by cartilage only,—which is covered by pavement epithelium. In the lower animals we find that in the olfactory region the ciliated epithelium is either absent or that ciliated and non-ciliated epithelium alternate in patches.† I have not been able to find a statement in the literature on the subject as to the kind of epithelium found in the accessory cavities in man; but it is very probable that the mucous membrane of the frontal sinuses and the antra of Highmore is covered with ciliated epithelium: otherwise it would be difficult, if not impossible, for the secretions of that mucous membrane to pass through the narrow channels into the nasal cavities. The color of the normal nasal mucous membrane is of a light pink shade in what is termed the respiratory portion, while it is of a yellowish hue in the olfactory region, that portion of the mucous membrane which covers the roof and outer wall of the nasal cavities down to the upper margin of the middle turbinated bone and the septum down to about the same level. It is in this region that the nerve-ends of the olfactory nerve are distributed. Immediately beneath the mu-

cous membrane and between it and the periosteum of the bony walls and the perichondrium of the cartilaginous portion of the septum we find a tissue which bears a striking resemblance to the erectile tissue of the genital organs.‡ It is composed of a net-work of fibrous tissue, the trabeculae of which contain a few organic muscular fibres. Its meshes, of various sizes and shapes, are occupied by venous sinuses lined with endothelium. These are supplied with blood by small arterioles and capillaries, which are quite numerous in the fibrous tissue and can readily be demonstrated under the microscope. In this arrangement of elements of the nasal mucous membrane we find a ready explanation of the fact that liquids of greater or less density than the serum of the blood, when introduced into the nasal cavities, produce pain;§ for we have here the most favorable conditions for osmosis, which will cause either a contraction or a distention of the sinuses. In the larger masses of fibrous tissue between the sinuses or caverns we find embedded the glands, with their ducts opening out between the epithelial cells of the mucous membrane. There are two kinds of glands in this region, which have been described by Kline,||—viz., serous and mucous glands.

This cavernous erectile tissue is most abundant at the lower portion of the septum and the lower turbinated bone; and, although it has been recognized and described as true erectile tissue by Henle, Virchow, and others, yet to Prof. Bigelow, of Boston, belongs the honor of having first called attention to the part which this tissue plays in nasal diseases. He gave to it the name "turbinated corpora cavernosa."¶

This short sketch of the anatomy of the nasal cavities will, I trust, be sufficient to enable me to make myself clearly understood when describing the morbid processes and pathological conditions underlying the formation of intra-nasal hypertrophies.

If we closely observe the course of a case of simple acute coryza, we will find that the first symptom is a feeling of fulness, accompanied by sneezing, and that this usually occurs in one nostril at first, the

* Quarterly Journal of Microscopical Science, January, 1881.

† Henle, *Anatomic des Menschen*, vol. ii.

‡ Henle, *loc. cit.*

§ Seiler, *Hand-Book of Diseases of the Throat and Nasal Cavities*, p. 97.

|| *Loc. cit.*

¶ Boston Medical and Surgical Journal, April 29, 1875.

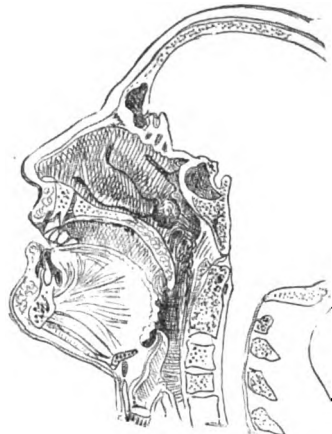
other one being affected later in the same manner. An inspection of the mucous membrane shows it to be in a state of congestion, and so much swollen in certain portions, especially on the inferior turbinated bone, as to touch that of the septum. This produces partial stenosis of the nasal cavity, and is felt as fulness. The congestion having continued for some time, a watery discharge makes its appearance, which is produced by a hyper-stimulation of the serous glands. According to Cornil and Ranvier, lymph-corpuscles are found in this watery discharge of the early stage of acute coryza. Later the discharge becomes thicker by the admixture of the secretion of the mucous glands and of epithelial cells which have undergone fatty degeneration and are thrown off by the rapid formation of new cells under the stimulus of the increased blood-supply. The mucous membrane, as well as the sub-mucous and cavernous connective tissue, becomes infiltrated with numerous leucocytes, and the venous sinuses become distended.

As the acute inflammation subsides, these conditions gradually disappear, leaving, however, the stretched mucous membrane thrown into folds as it contracts, which are especially noticeable at the posterior extremity of the inferior turbinated bone. While spreading, the inflammation involves the glandular tissue situated in the vault of the pharynx, the so-called adenoid tissue or pharyngeal tonsil,* and excites it to hypersecretion of the thick yellowish mucus which is expectorated towards the end of the attack. The mucous membrane lining the accessory cavities also participates in the general inflammation, and the accumulation of secretion within them, produced by the obstruction of the narrow outlets by tumefaction of the cavernous tissue, causes the dull pain in the head which accompanies an attack of this kind.

Frequent repetitions of acute coryza at short intervals must of necessity produce a permanency of the inflammatory infiltration in the mucous membrane and sub-mucous tissue, which infiltration finally becomes organized so as to form connective tissue; at the same time the venous sinuses remain more or less distended, and the epithelium of the gland-ducts begins to proliferate. In this way permanent

swellings of the mucous membrane in the nasal cavities are formed at the most pendent portions,—viz., the lower edge of the inferior and sometimes of the middle tur-

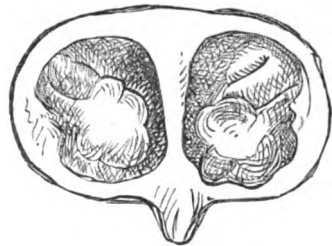
FIG. 1.



Section of head, showing position of posterior hypertrophy on middle turbinated bone.

binated bones; but they are also found on the septum. These swellings are called hypertrophies, and are divided, according to their location, into anterior and posterior.† The anterior hypertrophies—those which are situated on the anterior extremity of the turbinated bones or on the car-

FIG. 2.



Sketch of rhinoscopic view, showing posterior hypertrophies in both posterior nares, and projecting into the vault of the pharynx.

tilaginous septum—are usually sessile and of a bright-red color, while the posterior ones—occurring on the posterior extremity of the turbinated bones—usually have a short pedicle-like attachment and project into the vault of the pharynx. Their color is either a dark-brownish purple or a light-yellowish pink; and I find that those of a dark color are much softer than the

* Luschka, *Der Schlundkopf des Menschen*.

† W. C. Jarvis, *The Pathology and Surgical Treatment of Nasal Catarrh*: *Archives of Laryngology*, vol. ii. No. 2.

light ones. Under the microscope a condition of the tissues in these swellings is noticed which I have already outlined.

Thus we see in a thin section of one of these hypertrophies that the epithelium is intact, although many of the cells, especially in the neighborhood of the openings of the glandular ducts, have undergone fatty degeneration. The basement membrane upon which the cells are mounted appears thickened, and immediately beneath it we find the mucosa densely infiltrated with a small-celled infiltration, so as almost entirely to obscure the mucous tissue. The gland-ducts are seen to be filled with proliferated epithelium, as are also the glands themselves. The bands of fibrous tissue forming the caverns in the erectile tissue are much thicker than in the normal structure, and the venous sinuses are large and irregular in outline. Here and there we find the endothelial lining of these caverns proliferating. Scattered through the connective tissue are seen

when the swelling springs from the cartilaginous portion of the septum.

Thierfelder* describes and figures the microscopic appearance of a nasal hypertrophy found by accident in a subject dead from mitral insufficiency, and to the heart-lesion he ascribes the formation of the swelling in the nose. There is, however, no doubt that these swellings are of inflammatory origin, and that in Thierfelder's case it coexisted with, but was not directly caused by, the heart-trouble, as he supposes. The erectile character of the tissue composing the hypertrophies causes them to increase in bulk under certain circumstances. Thus, I have noticed that they are larger in women during the menstrual periods, and probably during the first months of pregnancy. Alcoholic stimulants cause them to swell up, as does mental and sexual excitement,—in fact, anything which tends to increase the blood-pressure in the head. In some cases they are larger in damp weather, while the moisture in the atmosphere does not affect them in others. It is probable that in the first instance they have undergone myxomatous degeneration, giving them hygroscopic properties.

The glandular tissue situated in the vault of the pharynx, and known as the adenoid tissue or pharyngeal tonsil, also becomes involved in the general chronic inflammation, and is likely to become permanently hypertrophied. When thus enlarged, this tissue presents a rugged appearance in the rhinoscopic mirror, with rounded eminences projecting into the pharyngeal cavity. The secretion of this gland, when thus

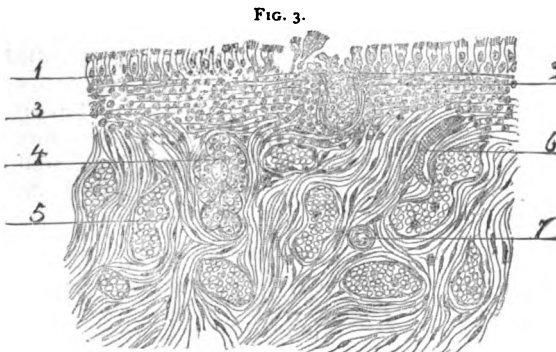


FIG. 3.
Section of posterior hypertrophy, $\times 250$. 1, epithelial layer; 2, mucous follicle; 3, submucosa, showing inflammatory infiltration; 4, mucous glands; 5, venous sinuses filled with blood; 6, small branch of arteriole; 7, transverse section of arteriole.

numerous lymph-corpuscles. In some sections made from hypertrophies I have noticed myxomatous change taking place in the fibrous tissue. There is but a slight difference in structure between the anterior and posterior hypertrophies,—viz., that the venous sinuses in the anterior hypertrophies are not as numerous nor as large as in the posterior variety, and that usually the inflammatory infiltration, as well as the new-formed connective tissue, is much more extended: so that we notice the venous sinuses only near the periosteum when situated on the turbinated bones, and close to the perichondrium

hypertrophied, is a thick, glairy mucus, which tightly adheres to the wall of the pharynx. Detached pieces of the tissue, when examined under the microscope, show the glandular elements greatly increased in number, the epithelium in the glands and ducts proliferating, and the scant connective tissue infiltrated with small-celled infiltration. This condition, however, but rarely interferes with the functions of the nasal cavities, except that it imparts to the voice a nasal sound by decreasing the size of the post-nasal cavity,

* Atlas der Pathologischen Histologie, Lief. 1, Tafel 1, Fig. 1.

and thus interferes with the normal nasal resonance, as I have pointed out in a paper read before the American Laryngological Association at its annual meeting in 1881.

On the lower portion of the cartilaginous septum we frequently notice protuberances which to the eye closely resemble the sessile hypertrophies of the mucous membrane, but which, when touched with a probe, have a hard, elastic feel, the same as is conveyed to the hand when touching the cartilaginous septum in other apparently normal portions. These are not localized deviations of the septum,—for we do not find a corresponding depression on the other side,—but they are true hypertrophies of the cartilage, as I had occasion to prove by removing a very large one and submitting it to microscopical examination. Gottstein claims that they are the result of a localized chronic perichondritis,* secondary to the chronic inflammation of the nasal mucous membrane; and this seems very plausible to me, for these cartilaginous hypertrophies are met with only in cases of long-standing catarrh.

On the floor of the nose we frequently see bony excrescences springing from the superior maxillary bone, which were described by Dr. Allen.† These are usually congenital, and, unless they give rise to pain and inconvenience by pressure through their size, are harmless.

According to Virchow's definition, these hypertrophies should be considered as tumors (which would be a strong point in favor of my friend Dr. Formad's inflammatory theory of tumors); but, inasmuch as they are not true neoplasms, but only localized increase of size of the normal tissues, and as they are not permanent,—often atrophying without having previously undergone destructive changes,—they cannot be considered as such; and the term hypertrophy, which has been used to designate them, is, in my opinion, a proper one. There is, however, a class of tumors, so called, found in the nasal cavities, which, springing from the mucous membrane or periosteum of the turbinated bones, or more rarely from the septum, differ in their histological elements, as well as in shape and size, from the hypertrophies,—viz., nasal polyps.

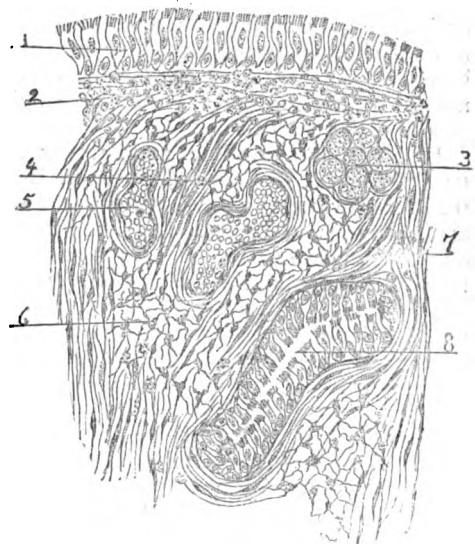
Two varieties of nasal polyps are usually

recognized,—the mucous and the fibrous variety,—to which I would add a third,—the cystoid.

Like the hypertrophies of the mucous membrane and of the cartilaginous septum, these polyps are due to inflammation; and Galen recognized this fact, for Virchow‡ quotes him as saying “that the nasal polyps are due either to inflammation or develop from a node or from germinal matter.” And Virchow himself§ says that on mucous surfaces tumors for the most part occur in places where there previously was a simple inflammatory disturbance,—where the simple inflammatory hyperplasia of chronic catarrh precedes the growth of polyps.

It is therefore evident that they may occur on any portion of the nasal mucous membrane, and that they will be found more usually in those portions of the nasal cavities which are most exposed to the irritating influences of the air and dust,—viz., in the respiratory portion. They are, however, also found in the antra of Highmore.

Fig. 4.



Section of mucous polyp, $\times 300$. 1, epithelial layer; 2, infiltrated submucous layer; 3, mucous gland; 4, fibrous band; 5, venous sinus filled with blood; 6, myxomatous tissue; 7, transverse section of arteriole; 8, invagination of mucous membrane.

Under the microscope the mucous variety is seen to be composed chiefly of myxomatous tissue, which is intermingled with fibrous tissue and some organic mus-

* Ueber die verschiedenen Formen der Rhinitis und deren Behandlung vermittelt der Tamponade: Berlin. Klin. Wochenschrift, No. 4, 1881.

† Loc. cit.

‡ Die Kr. Geschwulste.

§ Loc. cit.

cular fibres. Embedded in their substance we find some hypertrophied glands as well as venous sinuses, and sometimes we find in thin sections openings lined with columnar epithelium, which are probably the cross-sections of invaginated portions of mucous membrane. The polyps are covered with ciliated columnar epithelium in those portions which are not exposed to the direct influence of the air, while the convexities pointing towards the nostrils are covered with stratified epithelium. Billroth* describes them as retaining all the elements of the mucous membrane from which they sprang. Occasionally we find that they have undergone teleangiectatic degeneration.

The more rare fibrous variety, which is very hard and of a glistening white color, stands in contrast to the soft, gelatinous, pinkish, and highly hygrometric mucous variety. Cornil and Ranvier say of the fibrous polyps, "They usually have their point of attachment in the posterior portion of the nasal cavity. They send prolongations in every direction, into all the cavities, either bending around obstacles or breaking through them, enlarging the nasal fossæ, thinning or destroying the bones, and penetrating by new ways or natural openings into the sinuses which surround the nasal fossæ."

Under the microscope they appear as true fibromata, containing, however, like the mucoid variety, glands, venous sinuses, and numerous capillaries. Both the fibrous and the mucoid variety of polyps are not infrequently combined in the same growth.

The question has arisen in my mind whether these growths could not be looked upon as simple hypertrophies of the mucous membrane which have undergone mucoid degeneration or fibrous change, or both, as the case may be; for in this way the presence of glands, venous sinuses, and spaces lined with epithelium within their structure can readily be explained, while, on the other hand, the presence of these foreign elements cannot so easily be accounted for if we consider the polyps genuine neoplasms. Having once started in a localized hypertrophy of the mucous membrane, the mucoid or fibrous change rapidly assumes large proportions under the stimulus of continued irritation, pushing the mucous membrane before it; and in this way the often enormous pear-shaped

masses are produced. I have frequently found a number of small mucoid polyps on the mucous membrane near the site of larger ones which I had previously removed, and which, if left undisturbed, would soon have filled the nasal cavity by their increase in size. This is a question, however, which cannot be determined by merely examining extracted polyps, but may possibly be settled by making sections through the mucous membrane at the point of origin of the tumors; but as yet I have not had either the material or the opportunity to do so.

The third variety of polyps is a large sessile cyst filled with thin watery mucus and covered with epithelium. In the few cases which I have seen—too few to make extended examinations as to the nature of these growths—they sprang from the lower border of the inferior turbinated bone. I have not met with a mention of them in the literature to which I had access.

All these conditions of the nasal cavities produce either partial or complete stenosis, thus interfering with the physiological functions of the nose, the consequences of which, as well as the treatment adapted for their removal, I have pointed out in a paper recently read before the Philadelphia County Medical Society† and in an article published in the *Medical Record*.‡

If by these remarks I have succeeded in stimulating others to pursue this interesting subject and in causing an interchange of ideas in the discussion of it, the object of my feeble efforts has been fulfilled.

1346 SPRUCE STREET.

DEATH UNDER ETHER.—The *Lancet* (vol. ii., 1881, p. 430) contains a notice of death under ether. The patient, a man of 48, had suffered from rheumatism in his youth, but his heart-sounds on examination just before etherization were so clear that no danger was apprehended from that quarter. The ether was being administered, but before the patient was fully under its influence he suddenly ceased to breathe. Artificial respiration was used to restore animation, but without avail. The *Lancet* considers the man to have died of asphyxia, and, calling attention to the trifling character of the injury,—a slight wound by a rusty bill-hook in the finger,—asks whether in this instance local anæsthesia would not have answered as well.

† Surgical Treatment of Nasal Catarrh: *Medical Times*, October 8, 1881.

‡ Jarvis's Operation, with Report of Three Cases: *Medical Record*, October 29, 1881.

* Ueber den Bau der Schleim-Polypen, Berlin, 1855.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JANUARY 14, 1882.

EDITORIAL.

THE publishers of the *Philadelphia Medical Times* are happy to announce that the growth in the list of contributors as well as in that of subscribers warrants the enlargement of the journal, and that hereafter each number will contain thirty-six instead of thirty-two pages. Will our subscribers help us to make the number forty-eight pages by influencing new subscriptions?

FREE TRADE IN MEDICINE.

THERE lies upon the table before us a pamphlet which purports to be the first number of the fortieth volume of the "*Medical News*,"—a weekly medical journal,"—but which really represents a new journalistic venture; and as such we welcome it. When an applicant for fraternal recognition offers itself to the editor of an old-established journal, he naturally turns to the editorial column, to see whether aid is to be expected in the never-ceasing battle with that which is wrong and in the always-to-be-remembered effort to uphold and increase that which is good, or whether success at any cost is the motto of the new journal, and right is to be sacrificed for the popularity of the hour, personal aggrandizement, or any other imagined good.

We opened, therefore, first to the editorial pages of the *Medical News*, and were much surprised to find, under the head of "Free Trade in Medicine," an editorial whose tone is in support of the present vicious methods of education, whose influence is directly to uphold the hands of those who are using professional positions for mere pecuniary gain, and whose sentences will bring comfort and aid to every one in

America who is opposing progress in our profession. We quote a paragraph as epitomizing the whole editorial:

"Now, as all the world knows, our medical literature is the growth of this century, of, indeed, the last thirty or forty years; and it is already being reproduced in European languages. It is also well known that certain departments of our art have been created in this country, and others notably improved. Free trade in medicine seems to work well here."

It seems a great pity to have to occupy time and space in combating a new opponent upholding error; and we are loath to enter the lists against the *Medical News*, because it seems to us incredible that it really means to take a stand against progress and growth; but the editorial is so plausible, though shallow, that we can scarcely pass it by.

Far be it from us in any way to belittle the achievements of American medicine. But is the work accomplished really great when compared with the force? A population of fifty millions of the most energetic race the world has ever seen,—a people culled from the sturdiest blood of all the best nations of the earth, materially rich beyond any other people save one, surpassed in brain-power by none,—is it strange that from amidst such a population some medical literature should arise? Is it not rather wonderful that so little of wheat is garnered, that only here and there a research is made, that only now and then a volume worthy of place upon the upper shelves of the world's medical literature is produced?

To attribute this little to "free trade in medicine" is like attributing the passage of an East Indian train of artillery drawn by elephants to the mud which clogs its wheels. Moreover, there is not free trade in medicine in this country. "Free trade in medicine," if it be anything but a slogan cry to catch the unthinking, means the right of any one to practise with or without diploma, the right of any one to give instructions and degrees in medicine, the right of a Buchanan to sell diplomas to the highest bidder in the market, the right of

the unprincipled, by lying, chicanery, and all the arts known to quacks and rascals, to deceive, swindle, kill those whose ignorance or credulity throws down all protecting barriers. This would be free trade in medicine. Is this what our brother editor desires, or what the *Medical Times* of London, in its lack of knowledge of American matters, thinks exists upon this broad continent of enlightened people?

Popular opinion has here long demanded that a man should have a medical diploma before he enters practice, and what really exists in this country, and what the editorial in the *Medical News* is supporting, is anything but free trade in medicine. It is an uncontrolled monopoly in medicine; it is the putting into the hands of a few men, to be used for their personal gain, the granting of the right to practise, and in no way supervising the methods in which this power is used. It is not the creating of a single strong institution, into whose walls students shall be forced to enter, whose faculty shall command the market and be under little or no temptation for gold to barter the right to practise medicine to persons unprepared for the responsibilities they are so eager to assume. It is the formation of a few firms, so to speak, who shall divide the patronage between them, be under no supervision, grant the diploma upon secret examination, and, knowing that as is the number of diplomas they get rid of so is the number of dollars in their own pockets, be under incessant inducement to sell honor for gain,—each declaring all the time to his own conscience that his neighbor is underbidding him and he must lower his standard. This is the American system. The *Medical News* to the contrary notwithstanding, it is incredible that any respectable minority of the profession in any civilized country desire such a system. We all know human nature,—how little by little it yields to a persistent strain; how long-continued temptation acts in

creating an evil so slowly that conscience is benumbed and at last sees not the wrong. The debauching of public opinion may be a slow process, but it happens after a few decades that that which was for the man of honor impossible seems to him a very light matter.

Thus has it come to pass that an American medical diploma, which at first meant as much as did that of any other country, now too often signifies only that five out of seven men have thought their own personal interests would be best served by giving the diploma to its possessor.

THE Board of Censors of the Medical Society of the County of New York do not see that attractiveness of a universal license to practise medicine, without previous preparation or present knowledge of the science and art, which delights the eyes of our colleague, and are at present actively engaged in an attempt to enforce the law. As the result of their efforts, one Abraham E. Cox was, early last year, fined one hundred dollars and publicly denounced by the judge. This was the pioneer case, and was followed by several convictions and the flight of other quacks from the State when attacked. All very well; but we should like most warmly to chronicle the next step forward,—namely, the alteration of the law so that it shall take away the right to grant a license to practise from colleges. By all means let degrees be granted and registered; but let State or County Boards of Examiners pass upon the qualifications of every man or woman who desires to enter the practice of our art.

BENZOATE OF SODA IN WHOOPING-COUGH.
—Dr. Tordeus, of Brussels, has prescribed benzoate of soda in a number of cases of whooping-cough, with very good results. He gives four grains of the salt every hour to a child of two or three years.

M. PASTEUR has been elected a member of the French Academy,—a well-deserved honor.

CORRESPONDENCE.

LONDON LETTER.

THE still waters of medical life here have been stirred lately by a lively episode. In my letter telling of the International Medical Congress held here in last July there was an allusion to Prof. Goltz and Prof. Ferrier and their views as to the localization of function in the brain. Prof. Goltz brought a dog with him from Austria which had had a piece of its brain removed. On this animal he desired to substantiate his views that the brain was not so localized as to function as Prof. Ferrier and others held; whereupon Prof. Ferrier exhibited a monkey in which certain definite symptoms—paralysis, to wit—had followed the removal of a certain portion of the motor area of the opposite hemisphere. It was agreed that the animals should be killed and their brains inspected. A committee of illustrious *savants* was appointed to examine the said brains. They found that in Prof. Goltz's dog a great portion of the motor area, believed to have been removed, had escaped removal: hence the non-abolition of motion, and a sufficient explanation of the apparent anomaly. In Ferrier's monkey the motor area had been excised, and consequently paralysis had followed. It was admitted that Prof. Ferrier had proved his case successfully. So far, so good. The scientific world was edified. But the matter did not end here.

We have among us a certain class of people who are opposed to cruelty to animals, especially when what is done has anything instructive about it. They are indifferent to fox-hunting, pigeon-shooting, and other sports in which animals have to suffer pain and injury; but when a physiologist uses any cruelty—*i.e.*, inflicts any pain upon an animal in order to throw light upon obscure subjects and to add to our knowledge—their indignation knows no bounds. They will have none of it. The knowledge so acquired is valueless, they say; and perhaps, so far as they themselves are concerned, their statement is correct: they do not learn anything therefrom. Then they are haunted by fears that the medical student is so devoted to physiological research that he spends much of his spare time in experimentation,—a very groundless fear, as all who know him well can assure them. However, they clamored some time ago when a weak government was in office, and got a bill passed to exterminate scientific research in Great Britain, so far as physiological experimentation involving injuries to animals was concerned. Only those who were in possession of a license could experiment upon animals; the experiments should be performed under chloroform or other anæsthetic; and, finally, the animal had to be killed immediately the experiment was over. They thought this would enable them to suppress

effectually all further research. But it happened that special licenses to a few teachers granted by the Secretary of State were essential for teaching purposes, and those were permitted by their bill: so that the mesh of their net was not so small, after all, as they imagined.

One morning recently, as Prof. Ferrier read his *Times* at breakfast, as is his custom, he was somewhat surprised to find that three learned counsel—men of eminence—had applied to the magistrate sitting at Bow Street for a summons against him, on the criminal charge of having violated the provisions of the Vivisection Act, as it is termed. They quoted from the reports in the medical journals an account of how the poor paralyzed monkey had behaved before the learned gentlemen; and of course it was piteous enough to see the crippled creature. The injury to it had maimed it; but that was unavoidable. A summons was granted, and the anti-vivisectionists chuckled, in the hope of wreaking their vengeance on the learned professor and mulcting him to the tune of fifty pounds, and getting him much public odium to boot, for having broken the law. They were going to be even with their scientific enemy this time, and no mistake. Prof. Ferrier had no license to perform experiments upon animals; that was one count. Then the animal had been kept six months at least, instead of having been killed at the time. There was no escape for him. The Lord had delivered the aggressor into their hand, and they were going to be the earthly instruments of His vengeance. As it happened, however, they were just a little too sure about their ground. They found out in court what they could readily have discovered before going into it, if their rage had not blinded them,—that the monkey did not belong to Prof. Ferrier at all. Prof. Gerald Yeo inflicted the injury on the monkey. They had got hold of the wrong man. They admitted their mistake and retired as gracefully as the circumstances would permit. After this defeat the rage and fury of the fanatics balked of their object knew no bounds. Miss Frances Power Cobbe was especially bitter. She pointed out in the press that at the International Congress nothing was said about Prof. Yeo in connection with the monkey: at the trial Prof. Ferrier had nothing to do with it except exhibiting it. She implied that the matter was not an upright one, and hinted that the reports of the medical journals did not represent the precise facts, and got what crumb of comfort she could out of that insinuation. Whether she has been much consoled or not thereby has not been hinted at, publicly at least. The explanation, as Prof. Ferrier gave it to a non-professional gentleman at dinner the other evening, is as follows. Prof. Gerald Yeo was desirous of seeing what effect antiseptic dressings, as advocated by their illustrious colleague Prof. Lister, would

exercise upon the healing of surgical injuries inflicted upon the brain. As the Professor of Physiology in King's College he possessed the special license exempting him from the embarrassments of the Vivisection Act. The motor area lay most conveniently for his purpose, and consequently he excised a definite portion of it. Now, while Prof. Yeo's end was to test the effect of anti-septic dressings on brain-injuries, in view of future operations on the brain,—as the removal of tumors, etc.,—the animal, after the operation, became an object of the deepest interest to Prof. Ferrier. It was necessary to keep the animal some time to see how far repair might be attempted,—how far the definiteness of the surrounding parts was impaired by being implicated in the healing process. But during this time the animal was without interest for Prof. Yeo's purpose; consequently his name was not introduced in the discussion upon the physiological sequelæ of the injury. Just as when a portion of the motor area has been ploughed up by a blood-clot in true apoplexy, so, when excised, loss of motion followed, with descending degeneration of the motor fibres and subsequent rigidity in the paralyzed limbs. This was the whole case in its naked simplicity. There was no crafty dissimulation practised, as Miss Cobbe would imply; no evasion practised whatever. The anti-vivisectionists, in their furious haste to strike an antagonist, overreached themselves, and were "sold," utterly frustrated in their unamiable purpose of doing a substantial injury to a man of science. No moral vivisection act controls their freedom of movement. They are at liberty to torture a fellow-creature most exquisitely, to put him on the rack *ad libitum*, only psychically. His sufferings affect them much in the same way that the agony of their victims affected the old Spanish Inquisitors: if not exactly acceptable, they regarded them with a sour sense of indifference: they were not going to be deterred from their obvious duty by any consideration for human suffering or any tenderness of heart about the infliction of pain. So also the modern opponent to all progress, intellectual and other. To drag a distinguished physiologist and physician into a police court, and to prefer a criminal charge against him, with such advantage as the command of able counsel could give, that is their interpretation of their duty towards their neighbor, in the nineteenth century. In this case they have not only failed in their ill-natured persecution,—for that it is rather than prosecution,—but they are hoist with their own petard.

The attention of the public was aroused by the trial. For once, plain, simple facts were laid before them, contrasting with the glaring fictions disseminated far and wide by the mendacious publications of the anti-vivisectionists. The eyes of Her Majesty's lieges

were opened. They saw what it was that the agitators really aimed at. It was the suppression of scientific inquiry—nothing more nor less—that they sought. There was no charge preferred of wanton cruelty, nor any suggestion made that any pain was inflicted in a spirit of wantonness calling for rebuke. The prosecution utterly collapsed, and with this followed a substantial diminution of the anti-vivisectionist wind-bag. While the iron of public attention to the matter was hot, articles have appeared by Sir James Paget, Prof. Owen, and Samuel Wilks, in the *Nineteenth Century Magazine* for December, giving the simple, unvarnished facts of vivisection; while Sir John Lubbock, F.R.S., proposes to bring before Parliament this session a bill for the repeal of the present Anti-Vivisection Act and the removal of the restrictions upon physiological inquiry in Great Britain: so that out of evil good may come. The baffled anti-vivisectionists have only themselves to blame for their failure and the reaction of public opinion against them and in favor of their opponents. Had they kept out of a court of justice, where facts are carefully ascertained and where wild accusations can find no foothold, they might have escaped this signal overthrow; but they overreached themselves in their eagerness and thoroughly exposed the utter unreason of their favorite assertions. Of course the fanatics will not cease from their clamor in consequence; but they have let daylight into their practices and exhibited their policy in its true colors; and the confiding section of society, who repeated their statements and their arguments in all good faith, are now on their guard and rendered more cautious in their advocacy for the future; while the other side has solid ground for rejecting all unsubstantiated statements preferred by the discredited fanatics,—discredited by their own acts and deeds.

What is the aid physiological research can give to practical medicine? Well, I will furnish an illustration which seems pretty conclusive of what it has done in one direction. When engaged, some years ago, in a series of experiments (which, by the way, were suddenly stopped in the middle of much promise by this very Vivisection Act) as to the physiological antagonists to aconite, it was found that when the respiration was being palsied by the action of aconite, and almost entirely abolished, belladonna and strychnia possessed the power of restoring it. The experiments were very conclusive as to the potency of both drugs as direct stimulants to the respiratory centre; and both have been extensively used by me in practice since then as stimulating expectorants, with most gratifying results. In all cases of chronic bronchitis since then one or other has been the *pièce de résistance* of my prescription. Strychnia forms an important factor of my ordinary cough-mixture at my hospital, which gives better results on the

whole than any other combination within my experience. It seems to exercise a very powerful excitant action on the respiration when embarrassed, and, when added to digitalis, gives excellent results when the lungs are gorged with blood due to cardiac failure, especially mitral disease. So marked are the results that the hypothesis suggests itself that the action of the strychnia upon the respiration aids the action of the digitalis upon the ventricles, especially the right ventricle, when taxed. At the Cambridge meeting of the British Medical Association in 1880 I propounded this hypothesis to the late Dr. Hayden, of Dublin, to Clifford Allbutt, Balthazar Foster, and others,—viz., that in certain cases digitalis disagrees with patients, doing them no good, and producing embarrassment of the respiration. The probable explanation was that the digitalis acted powerfully upon the heart, but, possessing little or no influence upon the respiration, the balance normally existing betwixt the circulation and the respiration became embarrassed, and an obstruction was set up to the blood-flow through the pulmonary circulation. If this hypothesis were correct, strychnia, as a direct stimulant to the respiratory centre, would probably make the difference between digitalis disagreeing and agreeing with the patient. It was admitted that the hypothesis was very ingenious and probably true, but that it would require a good deal of evidence to substantiate it. Further consideration of the matter has made the hypothesis look more and more feasible; but, as in all cases where the combination seemed indicated since then I have given the two together, no opportunity has occurred to me to put my hypothesis to the test. Recently the opportunity was offered, and the result was eminently satisfactory.

A fortnight ago a summons came by telegraph to visit a patient in Wales. The summons was urgent. I might be too late. When the patient was seen, he was undoubtedly very ill indeed,—nigh unto death. His respirations were 58 per minute, hard drawn, and with exhausting effort; the pulse 130, showing a distinct disproportion indicating the gorged state of the pulmonary circulation. He spat a gout of blood at intervals, and the right base was dull. The legs were œdematous above the knees, but not highly so. The urine was but half a pint in the twenty-four hours, dense, specific gravity 1027, staining the utensil with purpurine, and highly albuminous. Digitalis had been tried fairly and disagreed, doing no good. On very careful examination a faint mitral obstructive murmur could be made out. The history was that some months ago walking up hill became difficult; then came a terrible shock (mental), upsetting the whole system thoroughly. From that time the patient got worse. He was well fed on albuminoids to strengthen him, but it was admitted that this plan only made him

worse and further embarrassed the liver and kidneys. Purgatives gave relief, and nitroglycerin was very useful when the hard breathing came on. The recent congestion of the lung was the last straw that was going to break the camel's back: that was evident. The first thing to be done was to discriminate the nature of the attacks of hard breathing. It soon became evident that they were due to embarrassment of the respiratory centre, and not to right-side distention (a matter I have pointed out elsewhere). A little difficulty of breathing, added to the persistent embarrassment, caused the patient to throw his clothes off and struggle for breath. After such dyspnoea, or rather "air-hunger," fair aeration of the blood was accomplished and the breathing became relieved for a time, but only a little time, before the air-hunger was upon him again. To breathe fifty-eight times a minute and to have acute attacks implanted upon that means exhaustion at no distant period. Their anxiety as to time was well founded. It was time to act promptly. As the patient was himself a well-informed medical man, it was prudent to bear the failure of the digitalis in mind: so carbonate of ammonia and tincture of nux vomica were given for twenty-four hours, and after that a pill of strychnia and digitalis in aloes and myrrh pill. In seventy-two hours, when I took leave of him, the respirations were 36; in sleep they had fallen to 22; the pulse was 90; the albumen had quite disappeared; the urine was three half-pints (specific gravity, 1017); the skin of the legs was wrinkling,—no longer shining nor pitting on pressure, but elastic. The patient had passed a fair night, sleeping comfortably most of the time, and never once waking up with any hard breathing. He sat up in bed and viewed his legs with unalloyed satisfaction, trying them himself with his finger to make sure they no longer pitted on pressure. He had had a narrow squeak for it, that was certain; and no one knew this better than himself. Consequently the parting was a pleasant one, and the patient entertained the prospect of wintering in the house instead of in the neighboring grave-yard, as he firmly believed he would when I was summoned. Since then his progress has been uninterrupted and satisfactory and the air-hunger has never returned. Both he and I are satisfied with the results attained. Now, here the treatment of the case had been judicious and well abreast the most recent knowledge, except my own speculations as to the utility of strychnia in those cases where digitalis failed. The patient was a capital patient, free from fancies even in his state of weakness. The downward progress was not only arrested, but improvement swiftly inaugurated, as soon as the new agent was brought into the field. It was like bringing a park of artillery to bear in a hard-fought contest to help the losing side. The combination at once gave relief. The

albuminuria, the outcome of venous congestion, quickly took itself off on the block in the pulmonic circulation being relieved, while the rise in the bulk of the urine, with a corresponding fall in the specific gravity, told of arteries better filled. The fall in the number of respirations in the minute meant the possibility of refreshing sleep instead of the perpetual or almost perpetual fight for breath. The lungs became less full of blood, and that meant an increase in the thoracic space available for respiratory purposes. The improvement inaugurated was "all along the line" and general,—not partial or incomplete. It was not evanescent, but has been maintained and kept up. To all enthusiasts in the therapeutic art this is a most satisfactory case, throwing a good steady light on an obscure condition. How those who "do not believe in drugs" will explain the phenomena away it will be interesting to see. A fortnight has now elapsed since he was seen: so that the measure has had a fair trial.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

CONVERSATIONAL MEETING, THURSDAY EVENING, NOVEMBER 10, 1881.

The VICE-PRESIDENT, DR. JAMES TYSON, in the chair.

Pathology of intra-nasal hypertrophies. By DR. CARL SEILER. (See page 245.)

DISCUSSION OF DR. SEILER'S PAPER.

DR. COHEN, in opening the debate, said that he agreed with Dr. Seiler that most polypi were the result of the irritation consequent upon frequent attacks of coryza. As Dr. Seiler had mainly confined his remarks to the results of the microscopic examination of these hypertrophies, he could not criticise them, having made no such investigations himself; but as to the necessity for their surgical removal he would merely say that in his experience any such measures were but rarely called for.

Dr. NANCREDE referred to the frequency of deviations of the bony nasal septum, instancing over one hundred skulls in fully one-half of which number he had observed that the septum was more or less deviated.

Dr. SEILER, in closing, said that he had not referred to the pathology of true polypi, but to what he had termed intra-nasal hypertrophies. He regretted that no one had anything to offer with regard to the *serous* glands mentioned in his paper. To their secretion he attributed the fact that the throat never became dry during sleep when the individual

breathed solely through the nose, but that dryness invariably resulted if the mouth remained open. In both the nose and mouth mucous glands are abundant; but they clearly do not supply enough moisture for respiratory purposes, and in consequence the normal respiratory passages—viz., the nasal—have superadded special glands for moistening the inspired air,—viz., the serous.

Secondary scirrhus carcinoma of the axillary glands. Exhibited by Dr. J. M. BARTON.

Mrs. B., æt. 60 years, a stout married lady, mother of thirteen children, was operated upon in March, 1878, for a cancer of the right breast. It had been noticed but for a few weeks, but, as the gland was very voluminous and the growth gave no pain, it had probably existed for a much longer time. I removed at that time but about one-half of the gland, that being fully sufficient to remove all the diseased as well as a large amount of healthy tissue; and as now, forty-one months after, there has been no local recurrence, the operation was probably sufficiently extensive. The tumor was about the size of a hen's egg, was not the seat of pain, and there was no glandular involvement. It had not been immediately preceded by any injury, but many years previously the same gland had been the seat of an abscess, the scars of which still remain even after the removal of the disease, showing, at least, that the malignant growth was not developed at the focus of the previous inflammation. The tumor had all the microscopic appearances of scirrhus. It was not examined microscopically at the time, and, though I preserved the specimen, I am not able now to identify it. Two years later, in February, 1880, I removed a small axillary growth shortly after it was discovered.

Quite recently, October 2, 1881, I removed the present growth. It had been noticed for about one month, was the seat of great pain, and was deeply situated in the axilla, being nearly in contact with the axillary vessels. The wounds after all the operations healed without complication: that made in the last operation was healed in about two weeks.

The section which is now under the microscope of the Society for the observation of the members shows the growth to be a scirrhus carcinoma.

The unusually long interval between the returns is a point worthy of note in this case.

Sarcomatous carcinoma of the mammary gland. Exhibited by Dr. J. M. BARTON.

Mrs. B., a patient of Dr. Runkle, of this city, a pale, thin, married lady, 51 years of age, who ceased menstruating at 44, was injured four years ago in the left breast. Six months afterwards she noticed a tumor the size of a hazel-nut, which in thirty-three months, or until January of this year, grew to the size of a walnut. For the last nine

months, however, it has been increasing much more rapidly, and has been ulcerated for two months.

On examination, October 1, it was about two and one-half inches in its diameters, and elevated above the surface of the breast to about the same distance. It was a soft, irregularly nodulated, ulcerated, bleeding mass, immediately below the nipple, but not including it, freely movable, and involving but little if any of the mammary gland. It has frequently been the seat of hemorrhages,—one very decided one three days prior to operation.

There was no axillary or other lymphatic involvement; there has been no pain at any time; the subcutaneous veins are but slightly enlarged, and the skin was diseased to but a short distance around the growth.

I removed the growth in the usual manner, leaving a large open ulcer, October 4 of this year. Owing to the previous hemorrhages, the patient did not bear the loss of blood well at the time of operation; but she soon rallied, and two weeks after the wound had far advanced towards healing, the patient being able to leave her room.

The microscopic section, which I also present, shows large alveoli filled with epithelial cells surrounded by a very scant stroma composed of spindle-cells. It might therefore be classed as an encephaloid carcinoma of the variety designated by Gross as sarcomatous carcinoma.

Dr. TYSON asked whether the history of injury was any more definite than that which was given in the notes.

Dr. BARTON replied that, owing to his not having seen the patient until just before operating, the only information in his possession was such as his notes gave.

Dr. FORMAD hailed these cases as strong proofs of the inflammatory origin of tumors, and had no doubt that if in all patients the question of traumatism were as carefully sought for as in these of Dr. Barton's no one would doubt the correctness of the view upheld by the speaker.

Dr. NANCREDE mentioned two cases where he thought that traumatism was clearly the starting-point of the malignant growths, although strongly opposed to accepting in their entirety Dr. Formad's views.

Dr. BARTON called attention to the exceedingly slow growth in one of his cases,—viz., three and a half years,—followed by its sudden enlargement.

Dr. TYSON criticised Dr. Formad's position, contending that an accident often calls attention to a pre-existent growth, and that in reality there is no causative relation existing between the two facts, but merely a coincidence. While admitting, as he had before said, that there were more facts adducible in support of the inflammatory than for other theories, yet the simple statement that an

injury was followed by a morbid growth cannot be admitted as evidence.

Dr. ESKRIDGE related a case of obstinate constipation in a case of carcinoma mammæ where there were no symptoms of malignant stricture of the intestines or other secondary abdominal growths.

GLEANINGS FROM EXCHANGES.

KUMYSS.—Dr. E. T. Brush, of Mt. Vernon, New York (*Medical Record*, December 17), in an article upon the history and therapeutic value of kumyss, and its preparation in this country from cow's milk, first traces it historically back to the time of Homer, who speaks of the "kumyss-making Hippomolgi." Marco Polo speaks of kumyss as a common drink, wholesome, nutritious, and possessing important medicinal qualities. Pallas states that kumyss is prepared by the Calmucks from the milk of the cow in winter, as few mares give milk then, which fact disproves the assertion that kumyss thus prepared is an imitation. Its preparation from mare's milk is as follows:

"To sour the milk they pour it into large leathern vessels, and place them, in winter, near the fire. The condition of these vessels often of itself suffices to sour the milk. They use also leaven made of coarse flour, very salt. They add sometimes some of the last fermentation, or curdled milk from the stomach of a lamb. They do not cream the milk, but, on the other hand, they employ a dasher; but this only in winter, as in summer they put the milk in skin bags, which they shake two or three times a day."

The above statements of Pallas apply to the Calmuck tribes; but as all the other Tartar tribes—the Crim Tartars, the Usbeks, the Nogai, the Kirghis, and others—prepare it, there exists considerable difference in their methods. Until recent years it was not known that kumyss was made except among these tribes. The habits of these people show clearly why they are the sole kumyss-makers. They are nomadic, lazy, neglectful of agriculture. Their wealth consists in herds of mares, the milk of which cannot be manufactured into cheese or butter, and which, owing to the large quantity of sugar it contains, ferments spontaneously.

Dr. Brush, quoting Dahl, states that, peculiar as is the taste of kumyss, one soon becomes accustomed to it, especially if one tastes it for the first time when thirsty, or after violent exercise. It is very refreshing and hunger-stilling, without being surfeiting, and a very large amount may be taken without fear. A tendency to constipation at first follows its use, but soon, in a measure, passes away. The urine is less abundant than usual, and generally discolored with a strong sedi-

ment. The secondary effect of kumyss shows itself in less than a week in good nourishment of the whole body, an increase in strength and spirits, and a general feeling of health.

"The diseases in which kumyss is beneficial are those in which the body must be well nourished without loading the digestive organs. It seems, too, that kumyss is specially useful in chronic affections of the chest, not only in diseases of the lungs, but also of the bronchia and larynx. I will not assert that it can cure consumption and phthisis; but it suits these conditions better than any other nourishment, and may even, when the tendency is pretty well advanced, prevent the disease, especially if the cure can be kept up all summer; or, if not prevent, at least delay it for some time. It is certain that among the Kirghis consumption and phthisis are very rare,—much rarer than elsewhere; so, too, pneumonia, senile asthma, and dropsy of the chest. Of tubercular, pituitose, and other phthisis I have seen no example among the Kirghis."

A case of tuberculosis of Dr. Neftel is cited, in which a permanent cure was effected by kumyss after the presence of cavities had been clearly demonstrated and a hectic fever set in; and Dr. A. M. Campbell (*American Journal of Obstetrics*, October, 1880), as the most recent writer on the subject, is quoted as endorsing its use in cholera infantum. Its use in this disease is based upon the fact that its primary cause is the food put into the child's stomach, and that but little aid is derived from medication. Dr. Campbell says, "In kumyss we have a food which children with high temperature not only take kindly, but crave, its slightly acid taste being grateful to their parched tongues. It is an absolutely non-putrefactive food, is free from sugar, and is rarely rejected, even by the most irritable stomach." He finds kumyss to be a very valuable aid in the treatment, especially in the early stages of the disease, arresting it by furnishing nourishment which the infant can retain and assimilate. The only cases in which it failed him were some in which well-marked brain-symptoms already existed, before it was administered, to such a degree as to preclude the possibility of recovery.

Dr. Brush has directed his attention to the study of milk since 1875, and was thus led to investigate the subject of the manufacture and therapeutic value of kumyss. The use of mare's milk in large quantities being out of the question, he ascertained by experiment the difference between it and the milk of the cow, the results of which showed that the former contained more casein, and of a different nature, more fat and sugar: the difference in the casein being in the coagulum, which from the milk of the mare was precipitated in fine, easily diffusible flakes, under the action of acids and the digestive ferments, while that from the milk of the cow formed into a hard

rubber-like mass. In order, therefore, to manufacture kumyss from cow's milk he modifies first the constituents of the milk and then adds the ferment as follows:

"To a given quantity of milk I add four per cent. of milk-sugar, take one-third of the milk, precipitate from it the casein, and add the resulting whey to the milk I had taken it from; then, to make with this the kumyss, I add a proper ferment, and during the coagulation of the casein the fermenting mass is constantly kept in a state of agitation, which breaks up the casein and leaves it in the condition which it presents in the milk of the non-ruminant animals."

In conclusion, he adds, "In cases occurring where defective nutrition is a predominant feature, kumyss, with the exception of one or two isolated instances, has never failed in improving nutrition."

A FORM OF DYSPEPSIA OCCURRING IN INFANTS.—Dr. Arthur Hill Hassall (*London Lancet*, December 3) calls attention to a form of infantile dyspepsia arising from the inability on the part of an infant to properly digest the casein of milk, and advocates the admixture of malt with wheat flour, sugar, and water to the milk to prevent the casein from coagulating in masses and thus rendering it difficult of digestion. He gives the case of an infant, fed exclusively on mother's milk for the first four months, which was in the habit of throwing up, after nearly every feeding, a large quantity of coagulated casein, while the same was passed by stool in still greater amounts. The stools were almost colorless, with occasional patches of yellow or green; they were frequent, often very offensive, and there were constant attacks of distressing flatulent colic. The child was weaned at four months, and single cow's milk, properly diluted, together with various remedies, was tried at different times, without any amelioration of the symptoms. The milk was then boiled and diluted, without any better results. Finally, however, it occurred to Dr. Hassall that if the casein were broken up in the stomach into small particles, digestion would then more readily follow. Having put the infant upon the mixture of malt and wheat flour, sugar, milk, and water, the effects were immediate and most satisfactory. The looseness and colic ceased; the motion became of soft consistency and of a natural and uniform yellow color, and quite inoffensive. He attributes the change in the child's condition to the alteration in the physical condition of the casein by its admixture with starchy food, and not to a simple reduction in its amount. He also mentions a case in which the most painful consequences resulted from eating cooked or uncooked eggs, or even the smallest quantity of egg in a sauce or ice, but which individual could take eggs, or the white of them, provided they had been broken up by mixing and cooking with flour.

MISCELLANY.

CHEMICAL DIFFERENCE BETWEEN LIFE AND DEATH.—Drs. Loew and Bokorny (*Pflüger's Archiv*) claim to have found that living protoplasm has in an eminent degree the power of reducing the noble metals from solutions, and that it loses this property when death occurs. They claim that the phenomenon denoted by the term "life" depends essentially on this power of reducing the noble metals.—*Chicago Medical Record*.

ALUM IN BREAD.—Dr. Samuel H. Gunder has been examining bread for alum. He says, "The average amount of alum normally present in pure bread, as determined by the analyses of others and confirmed by my own, is 4.41 grains to a two-pound loaf. When a much larger amount is present, it may be regarded as an adulteration. Mr. Horsely, an English chemist, has proposed a very simple test for alum as an adulteration in bread and flour. His test is known as the 'logwood test,' and is best applied as follows. 'One hundred and twenty grams of chips of logwood are digested in eight ounces of methylated spirits for eighteen hours and then filtered. This solution, when brought into contact with bread or flour free from alum, produces a pale yellow or straw color, but a dark red when alum is present.*"

"The process which I used for determining the amount of alum is as follows. One hundred grams of bread-crumbs is carefully incinerated in a platinum dish; the ash fused with three times its weight of pure potassium and sodium carbonates; the fused mass, dissolved in hydrochloric acid, evaporated to dryness, the residue dissolved in an acid, diluted, and the silicon removed by filtration; to the filtrate ammonium hydrate is added until a permanent precipitate is formed. This precipitate is dissolved in a little hydrochloric acid, a slight excess of ammonium hydrate added, and the mixture set aside over-night. The precipitate which forms is collected, washed, and redissolved in hydrochloric acid. The solution is boiled for a few minutes with a small quantity of sodium bisulphite, then an excess of sodium hydrate added, and the boiling continued a few minutes longer. The precipitate formed is chiefly the oxide of iron, and is removed by filtration. The filtrate is rendered feebly acid with hydrochloric acid, acetate of ammonia added in excess, and allowed to stand over-night. The precipitate consists of pure phosphate of aluminum, and is collected, washed, dried, and weighed. This weight multiplied by 542 gives the number of grains of potash alum in two pounds of the bread.*"

"Seventeen samples of bread were examined. Eight of these gave evidence of alum with the logwood test. The samples from large

city bakeries contained the most alum. The following figures give the amounts of alum in grains per two pounds of bread in the specimens which responded to the logwood test:

No. 1	.	.	.	16.85 grains.
" 2	.	.	.	15.82 "
" 3	.	.	.	14.31 "
" 4	.	.	.	12.30 "
" 5	.	.	.	11.22 "
" 6	.	.	.	10.56 "
" 7	.	.	.	10.24 "
" 8	.	.	.	9.10 "

"Three samples which gave negative results with the logwood test contained the following amounts:

No. 1	.	.	.	4.76 grains.
" 2	.	.	.	4.63 "
" 3	.	.	.	3.84 "

"All the 'patent' flours examined contained alum."—*Physician and Surgeon*.

CARYATIDES FROM CADAVERS (*Chicago Medical Journal and Examiner*).—An engineer of Havana, named Cruz, proposes the following way of embalming. The body is placed in a bath composed of equal parts of lime and clay dissolved in a sufficient quantity of water, then it is covered with another layer of natural cement, destined to absorb the excess of water, after which the cadaver is submerged in a bath of pitch, and covered finally with a layer of lime,—the contact only between the lime and the calcareous cement being sufficient to solidify the pitch rapidly, a thick coating being formed in this manner which possesses the same properties as the pitch of Judea, a substance to which the Egyptian mummies owe their peculiar indestructibility. As can be readily understood, a subject so prepared can exhalate no marked odor, the different layers of lime, clay, and pitch forming around it a kind of solid wrapping, which is opposed effectually to the disengagement of gases. A cadaver, after being treated in this manner, is deposited in the interior of a mould, which is filled with the following mixture, that very soon solidifies and is transformed into stone. Cement, five parts; sand, three parts; ashes, two parts; water, a sufficiency. The stones which are obtained by this process acquire a remarkable solidity. Obituary inscriptions can be engraved upon them; they can be placed in mausolea, or may serve for the construction of sepulchral monuments of various forms. (*Boston Medical and Surgical Journal*.) We would suggest silicate of potassium (liquid glass) as a coat, which would be highly artistic, and through this process lawns and gardens could be adorned with the well-preserved persons of ancestors, in place of common statues. Or, if preferred, the busts of grandparents could be in the same manner preserved and utilized as mantel-ornaments, which would enhance the veneration for the departed.

ABSINTHE.—The consumption of this se-

* Chemical News, vol. xxiv. p. 134.

† Ibid., vol. xxv. p. 232.

ductive and health-destroying liquor appears to be on the increase. . . . Absinthe is a yellowish-green liquor which contains as a peculiar ingredient a poisonous oil having a deleterious effect on the nervous system. The oil is called wormwood oil, and is produced in nature by the *Artemisia absinthium*. Other flavoring oils are always added, such as peppermint, angelica, cloves, cinnamon, and aniseed. The color is produced by the juice of nettles, spinach, or parsley, or, in other words, is due to the common green "chlorophyll" found in all green plants. Most samples of absinthe contain sugar. The average composition of absinthe is as follows: absolute alcohol, in 100 parts, 50.00; oil of wormwood, .33; other essential oils, 2.52; sugar, 1.50; chlorophyll, traces; water, 45.65. Alcohol causes drunken sleep; alcohol and absinthe combined produce convulsions. The poor wretches given up to absinthe-drinking suffer from a peculiar train of nervous symptoms, the most prominent of which is epilepsy of a remarkably severe character, terminating in softening of the brain and death. The last moments of the absinthe-drinker are often truly horrible. M. Voisin records a case in which a man was picked up in the public street in an epileptic fit. He was known to be a large consumer of absinthe. The convulsions lasted until death,—four days and four nights. During the last five or six hours of life the skin of the face became almost black.—*British Medical Journal*.

OPACITY OF THE VITREOUS BODY.—At a recent meeting of the Académie de Médecine Dr. Teulon read an interesting report on opacity of the vitreous body and its treatment by electro-therapy. In twenty-four patients observed by him and treated by the continuous current, he reckoned twenty-two radically cured. He employs a very low number of elements, and applies the positive pole upon the closed eyelids, and the negative on the mastoid process or upon the superior cervical ganglion. The application lasts only two or three minutes. In conclusion, M. Teulon observed that in every opacity of the vitreous body, no matter what may be its degree or extent, provided that its development has not assumed the confirmed form of hypertrophy, from experience he considered the constant continued currents as the most efficacious treatment.—*Medical Press and Circular*.

NOTES AND QUERIES.

OBITUARY.

PROF. JOHN WILLIAM DRAPER, who died January 4, aged 71 years, at Hastings-on-the-Hudson, New York, was born at St. Helen's, England, May 5, 1811. He received his early education in an English Methodist school, and afterwards studied under private tutors and in the University of London, but took his medical degree at the University of Pennsylvania in 1836. Soon after his graduation he was elected Professor of Chemistry, Natural Philosophy, and Physiology

in Hampden-Sidney College, in Virginia. In 1839 he became Professor of Chemistry and Natural History in the Academic Department of the University of the City of New York, where he also delivered lectures on physiology. In 1841 he was elected Professor of Chemistry in the University Medical College, and afterwards was for several years President of both the Scientific and Medical Departments of the University. He was a very laborious investigator, and a voluminous writer on the results of his studies, contributing largely to most of the standard scientific publications of the world. Between 1837 and 1857 he furnished over forty papers to the *London and Edinburgh Philosophical Journal* and to the *American Journal of Science and Arts* and the *American Journal of the Medical Sciences*. Many of these papers were of a very recondite nature. He also was the author of numerous literary works, reviews, etc., many of which were published anonymously. Among these works may be mentioned "A Treatise on the Forces which produce the Organization of Plants," a popular "Text-Book of Chemistry," and one on "Natural Philosophy." He also wrote largely on actinism, the actinometer, and photography. His treatise on "Human Physiology, Statical and Dynamical," passed through many editions, and was translated into nearly all the civilized languages. His "History of the Intellectual Development of Europe" appeared in 1862, and was also reproduced in many languages. In 1865 four of his lectures were collected in a volume under the title of "Thoughts on the Future Civil Policy of America," and in 1870 appeared, in three volumes, his "History of the American Civil War." He was the discoverer of many fundamental facts respecting the spectrum analysis, and wrote an important paper on the "Distribution of Heat and of Chemical Force in the Spectrum." A very important work was his "Conflict between Science and Religion," which attracted world-wide attention. One of his latest and most careful works was his "Scientific Memoirs," printed serially in *Harper's Magazine* in 1878. They were a compendium of the results of his experiments in the University of New York on chemical and physical topics, particularly as related to light, electricity, and radiant heat, in which he obtained results and deduced principles which have often been credited to Faraday and Tyndall.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 25, 1881, TO JANUARY 7, 1882.

SUMMERS, JOHN E., LIEUTENANT-COLONEL AND SURGEON, MEDICAL DIRECTOR DEPARTMENT OF THE PLATTE.—The leave of absence granted him in Paragraph 6, S. O. 123, Department of the Platte, December 1, 1881, is extended one month. S. O. 135, Military Division of the Missouri, December 28, 1881.

TREMAINE, W. S., CAPTAIN AND ASSISTANT-SURGEON.—Now awaiting orders in New York City: to report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 2, A. G. O., January 4, 1882.

HAVARD, V., CAPTAIN AND ASSISTANT-SURGEON.—Now en route from Fort Davis to San Antonio, Texas; assigned to temporary duty at Headquarters, Department of Texas, and to report to the Medical Director for instructions. S. O. 154, Department of Texas, December 12, 1881.

POWELL, J. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—The seven days' leave of absence granted him in Orders 186, Fort Stockton, Texas, is extended fifteen days. S. O. 159, Department of Texas, December 27, 1881.

CARTER, W. F., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—The seven days' leave granted him by Orders 195, c. s., Fort Concho, Texas, extended one month, providing he furnish an acceptable substitute during his absence, without expense to the United States. S. O. 160, Department of Texas, December 29, 1881.

GORGAS, WM. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—The leave of absence granted him by Paragraph 5, S. O. 150, Headquarters, Department of Texas, December 3, 1881, is extended one month. S. O. 1, Military Division of the Missouri, January 4, 1882.

MADDOX, THOS. J. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Now awaiting orders in Washington, D.C., to report in person to the Commanding General, Department of Texas, for assignment to duty. S. O. 2, A. G. O., c. s.

PHILADELPHIA, JANUARY 28, 1882.

ORIGINAL LECTURES.

CLINICAL LECTURE ON PAIN IN THE SIDE.

Delivered at the Medico-Chirurgical College

BY HUGO ENGEL, A.M., M.D.,

Professor of the Principles and Practice of Medicine and of Clinical Medicine, etc., etc.

GENTLEMEN,—I thank you that you have appeared in such large numbers here to-day, as it repays my assistants and me for our exertions in procuring as many cases as possible which might give me an opportunity to illustrate on them the many varieties of "pain in the side," and to show you how to proceed in their examination.

STITCH IN THE SIDE AFTER RUNNING.

This little girl, Clara F., is 10 years old. She has had whooping-cough, measles, scarlet-fever, chicken-pox, and mumps, nearly all the so-called "diseases of childhood," therefore, and passed safely through all of them. For the last two years she has been in perfect health, with the single exception that she frequently complains of a stitch in the left side. So her mother informs us. On my questioning the little girl, you hear her tell me that this pain is by no means constant, that she never feels it when sitting quietly, but that she has it as soon as she runs fast. The most careful examination fails to reveal any organic lesion in the child: she suffers from no neuralgia and from no muscular affection either. What, then, is this stitch due to? Gentlemen, you are aware that the spleen has something to do with the manufacture of the blood; but especially in childhood this organ seems to act also, when necessity arises, as a reservoir for the blood. When in consequence of long-continued and fast running the respiration becomes very rapid, and the increased circulation in the lung threatened with obstruction, the heart beating so quickly that you hardly are able to count the pulse, I have found the spleen increasing considerably in volume, and then the tension produced by this sudden augmentation in size creates that sharp pain commonly called a stitch in the side, which is simply a warning of

nature that the exertion is being carried on beyond the limits of safety. This pain is mostly so severe—though lasting only a second, but recurring all the time as long as the exertion continues, and for a little while after it—that the child is forced to stop running, just the best thing for it to do. After quietly resting for a little time, the stitches rapidly cease, and just as quickly the spleen is emptied of the blood that accumulated there, and assumes again its normal size. Occasionally a very similar pain is produced in consequence of gases in the colon finding an impediment to their exit. As the obstruction is overcome, however, mostly within a second or two, this pain is of no longer duration than the stitch in the side of this little girl, though just as sharp. As regards treatment, the only one we have for our patient consists in the removal of the cause: she must stop running so fast, and she will feel no more of her pain.

PLEURODYNIA.

The man before you here is 42 years old. His name is John McG. He looks rather thin, and is evidently not well nourished. His occupation is that of a weaver, but for some days he has not been able to attend to his work, on account of a severe pain he feels in his left side, and which prevents him from taking a deep breath. He says he had often a similar pain during cold weather, and that he sometimes suffers from pain on the left side of his face, evidently neuralgia of the fifth nerve. There is no history of syphilis or malaria. On examination, I cannot detect anything wrong, either on percussion or on auscultation. But pressing with my finger on the skin just to the left of the seventh dorsal vertebra, and in the axillary line at the lower edge of the seventh rib of the same side, there is tenderness; the patient winces, and says that he feels the pain especially along that rib. We have here, first, an absence of organic lesion; secondly, a pain intermitting in character and following the course of an intercostal nerve; thirdly, there are *points douloureux*, special sensitive points, where the nerve makes its exit from a bony canal; and, lastly, the patient gives a history of neuralgia. The points just mentioned are the essential features of intercostal neuralgia or pleurodynia, a complaint which sometimes

reaches a high degree of severity. And as the nerve is still more irritated when on deep inspiration the cavity of the chest is widened, respiration is generally more superficial, and, therefore, somewhat more rapid, and the pain is apt to be deceiving, simulating internal organic affection. But the points given, and a careful physical exploration, will always enable you to arrive at a correct diagnosis. Romberg said truly, neuralgia is the cry of the nerves for food. The more you bear this maxim in mind, the greater will be the success of your treatment. We will advise the patient, therefore, to lead a regular life, take wholesome nourishment, and have a sufficient amount of out-door exercise; whenever his bowels have not moved one day, he shall take a Seidlitz powder the next morning on the empty stomach, or a dose of castor oil, if the remedy first mentioned should not be sufficient: we will further prescribe the following pill to be taken *ter die*, one hour before meals:

R Ferri redacti, gr. j;
 Acid. arseniosi, gr. $\frac{1}{8}$;
 Extr. gentianæ, gr. ss;
 Extr. nucis vomic., gr. $\frac{1}{4}$;
 Extr. cinchon. rubræ, gr. iiss;
 Gum. acaciæ,
 Glycerin., aa q. s. ut fiat pilula;

and order him to have a small fly-blister applied over each of the two sensitive points. Should afterwards any pain still be left, we will give him a porous belladonna-plaster, to be left on the skin till all pain has disappeared, or the plaster fallen off by itself. I can recommend these English porous belladonna-plasters very highly for the purpose indicated. They have, when genuine, a beautiful green color, and act very promptly. In some patients, who have either a "rapidly-absorbing" skin or a peculiar idiosyncrasy for belladonna, you have to watch carefully the effect of the plaster and remove it immediately when continuous dilatation of the pupils, disturbance of vision, great dryness of the throat, and headache with sleepiness set in. Such cases are rare, but they happen occasionally.

CHRONIC MUSCULAR RHEUMATISM.

Looking at this gentleman, Mr. M., a private patient of mine, who kindly consented to come here to-day, nobody would imagine that he suffers from any physical ailment. But, notwithstanding this appear-

ance of robust health, Mr. M. suffers, and not a little, from a pain mostly on the left side over the region of the heart, but frequently extending across the chest. Mr. M. says that he has often had similar pains, and that he felt them the first time about four years ago (he is now forty-eight years old), when he one day got thoroughly wet and had to wait some hours before he could change his clothing. Since that time he has occasionally pains in his thighs, or about the shoulder, in the arms, the back, or across the chest; but to-day the region over his heart is especially painful, and breathing is difficult for him, because he cannot expand his chest-muscles,—they are too sore. I have examined Mr. M. carefully, and can assure you that none of his internal organs is the seat of a lesion. What, then, is the cause of the pain? You have here a history of exposure to damp and cold, after which different parts of the body become at different times affected with pain. The pain is diffused over a muscle, or over a set of muscles, and is decidedly increased on motion. It does not follow the course of a nerve, and is greatly influenced by changes in the weather. Mr. M. further informs us that his father suffered for many years from the same complaint, but that he was cured of it by taking the baths at Kissingen. Gentlemen, when you find a pain diffused over a muscle, a history of hereditary influence, of exposure to cold and wet, and of repeated attacks, if the pain is influenced by changes in the weather and increased on motion, *i.e.*, on moving the muscle or muscles affected, then you have the disease known as chronic muscular rheumatism. You distinguish it from neuralgia by the pain being diffused over a muscle, not following the course of a nerve, and by its being decidedly increased on motion; from myalgia, which simply means pain of a muscle, by the history of the same, it always following an overexertion, a strain of the muscle; and from all other rheumatic or gouty affections, in that both the latter invariably attack joints, but not muscles. Chronic muscular rheumatism is not a dangerous, but often a very troublesome complaint, which is best cured by the patient taking the baths of Kissingen, Gastein, the Hot Springs of Arkansas, or of similar places. Internally I have found the following prescription to be the most successful:

R Potassii iodidi, ʒss;
Vini seminis colchic. (Angl.), fʒss;
Syrup. sarsapar. comp., fʒiv.

M. S.—Fʒi ter die,
but largely diluted with water, and the wine of the seed of colchicum must be the imported English article, as they make it in England from the fresh seeds, while here it is prepared from the dried seeds. Externally, the application of porous plaster, or Turkish baths with massage, or stimulating liniments, prove often of service. If the pain seems to affect always one place in preference, the hypodermic injection of $\frac{1}{6}$ of a grain of morphia and $\frac{1}{12}$ of a grain of atropia will frequently remove it from that muscle forever. I can further recommend the wearing of red flannel underclothing next to the skin, and know a number of cases where this procedure alone has prevented a return of the rheumatic affection.

SYPHILITIC PERIOSTITIS.

You will notice the difficulty with which this young man is breathing. His name is Charles L.; 23 years of age. He says that he has such a severe pain over the breast-bone and on both sides of it that he is almost afraid to draw a breath; it seems to him as if his chest were torn to pieces. The pain commenced about two weeks ago, and has daily increased in severity. It becomes especially bad towards evening, and is worst during the night, while in the morning it is less intense. On examination I find the organs of the chest in a normal condition, but on inspection and palpation I notice a thickening of the integument over the sternum and partly over the ribs, and great tenderness all over the anterior part of the thorax. A more careful investigation shows, however, that not the skin, but the periosteum covering the bones is thickened. You will hear directly the cause of this. "Mr. L., tell me the truth, when did you have a sore on your genital organs?" "Five years ago." "Were there more sores than one?" "No, sir; only one little sore." Gentlemen, the patient is evidently surprised by my questions, and tries to make it as little as possible, not knowing that the fact of the existence of only one sore just proves the dangerous character of it. Hard chancres are vastly more perilous than multiple, soft chancres, so-called chancroids, though the latter, too, are often followed by constitu-

tional affection. "Did you have a swelling in your groin, and how long after the appearance of the chancre?" "About two weeks after noticing the sore I had the swelling, which went away of itself later." "How long after this did you observe an eruption on your skin?" "About two or three months later." "Had you any other symptoms of syphilis?" "I had a sore throat, and sores on my tongue and lips, and my hair fell out; but I was totally cured of all that." "Did you never have any pain or any sore on your body after that till now?" "No, sir; I never had anything. Why, has this pain also to do with that disease?" "Certainly, Mr. L.; that is all the same disease." Gentlemen, you have heard just now a clear history of syphilis: first the primary sore, then the bubo, and this followed by all the signs of secondary syphilis. The patient must have been treated very skilfully the last time, as he has been free now for four years before any symptoms of tertiary syphilis—for that is his affection—made their appearance. Frequently such persons escape the tertiary form totally; but it is rare not to find the so-called osteocopic pains long before such violent inflammations of the periosteum of the bones as in the present case develop themselves. We have, therefore, here, as cause of the patient's severe pain, syphilitic periostitis. The history of the case, the fact of the symptoms becoming aggravated towards night, and the local condition of the parts affected leave no room for a doubt; and, besides, the correctness of the diagnosis will be proved by the success of the specific treatment which the patient will be put under. We shall advise him to apply a large fly-blister, about eight inches in diameter, over the sternum and the ribs, and to take of the following medicine:

R Potassii iodidi, ʒj;
Aquæ destillat., fʒv;
Syrup. sarsapar. comp., fʒj.

M. S.—As directed.

For the first two days two teaspoonfuls (= 20 grains), and then a tablespoonful (= 40 grains), largely diluted with water, three times daily, two hours after meals.

Should this dose not be sufficient to remove the symptoms, it will be still further increased until the desired result is obtained. The mistake frequently made consists in the administration of too small doses of the iodide of potassium. I had

frequently to give one drachm and more, three times daily, ere the patient was free of his tertiary symptoms. When apparently well, he should continue the medicine in gradually diminished doses for a long time afterwards; and it has been my practice to advise such people to take as a precautionary measure, twice a year,—in the spring and in the autumn,—twenty grains of the remedy, three times daily, for the period of three weeks, and to continue doing this during the remainder of their lives. I know to-day a number of persons who, following this advice, have had for years no further trouble from the disease, and the children of whom have given no sign of a hereditary taint of their system.

DYSPEPSIA.

The ladies generally come first, but in a clinic we often have to follow a different order. This lady, Mrs. Annie V., will tell us what she is complaining about. She says she is 39 years old, and has been suffering for a long time—she does not know exactly how long—from a pain in her left side. It is in her heart, she believes, from the fact that she is frequently troubled with palpitation. But these are not all her symptoms. She has sometimes shortness of breath, especially after eating, when she feels as if a heavy weight were pressing on her stomach. She belches often, and her bowels are inclined to constipation; she has not much appetite, and does not relish her food. Her tongue is large, flabby, indented by the teeth, and covered with a whitish coat. The physical examination reveals nothing abnormal. Spleen and liver are of normal size; so is the heart, the sounds of which are also normal; and there is nothing wrong either with lungs or pleura, or with any of the large blood-vessels. Her stomach is filled with gas and some undigested matter; she has sour eructations; but there is no tenderness in the epigastric region. We have, therefore, here a typical case of atonic dyspepsia, which, especially in women, is always connected with disturbed function of the heart and pain in the left side. I think both of the latter are due to the fact that there are often undigested matters left in the stomach; these ferment and give rise to gases, which distend the stomach, and this, by its enlarged size, presses upon the neighboring parts and thus produces the symptoms mentioned. There is a feeling of weight,

therefore, in the epigastric region, especially when new food augments the contents of the organ; the functions of the heart and respiration become disturbed as the expanded stomach encroaches upon the cavity of the chest, and embarrasses the movements of the diaphragm, and by the pressure upon the serous covering of the latter the pain is produced which by the patient is referred to the heart. A careful physical examination, the dyspeptic symptoms, and the fact that there is no tenderness in the epigastric region will prevent you from making a mistake. The peculiar appearance of the tongue is, besides, almost pathognomonic. How do you remove this dyspepsia, the pain, and the disordered function of the heart? Advise the patient to eat only three daily meals and to give her stomach perfect rest between-times. Let the meals consist only of several cups of unboiled milk, some slices of toasted white bread, with butter, and either one or two soft-boiled eggs, or a beef-steak, or a mutton- or lamb-chop, the meat to be broiled, not fried in fat. We shall insist on this as the only diet for our patient. Besides, she shall take immediately after each meal a dessertspoonful of liquor pepsin in a wineglassful of water, and one hour before each meal the same dose, in half a tumblerful of water, of the following medicine:

R Sod. bicarbonat., ℥ss;
Tinct. nucis vomic., ℥ij;
Tinct. gentian. comp.,
Tinct. rhei, aa ℥ij.

M. S.—Shake well.

Lastly, she shall apply over the region of the heart a belladonna-plaster, and, before a week is over, the pain and nearly all the dyspeptic symptoms—the shortness of breath and the palpitation—will have disappeared.

PLEURISY, DRY STAGE.

Let us now hear the history of James F., 27 years old. He says that he had been well till four days ago, when, walking home in the evening from work, he was caught in the rain, and became thoroughly wet. During the night following he slept restlessly, and towards morning he had a slight chill, followed by fever and a short, dry cough. Now he cannot take a deep breath, as he immediately feels in the left side a severe pain, like a cut with a knife, and he has the same sharp pain whenever he coughs.

His temperature is 101°. He never suffered from pain before, and complains of no other symptom. His tongue is slightly coated; but, as the few symptoms mentioned give us no indication for a diagnosis, I shall make a physical exploration after he has undressed himself so as to have his chest covered by one under-shirt only. You frequently meet with patients wearing two under-shirts, or chest-protectors, like this young man: when examining such a person always see that all superfluous clothing is removed, as it interferes with your hearing. There is nothing wrong with the patient's heart, except that the organ beats somewhat excitedly. Anteriorly, percussion over the lungs elicits all over a clear sound; but on auscultation I find no pure vesicular murmur, the breathing is more bronchial in character, and I hear some sonorous and a few large moist râles, indicating bronchitis beginning its moist stage. Posteriorly, percussion is just as clear, and auscultation gives the same evidences of a mild bronchitis, as anteriorly; but on the left side, over the lower part of the chest, I hear, during expiration, very plainly a friction-sound. Letting the patient cough a few times, I still hear the same râle; if anything, it is stronger than before. A few of the gentlemen may step forward and listen to the sound. This man's stitch in the side is now well explained. He has a mild pleurisy, which is in its first or dry stage. The serous membrane inflames and becomes roughened, and when the two pleuræ meet, which happens at the end of inspiration and at the beginning of expiration, a friction-sound is produced, where formerly, when the smooth surfaces touched each other, no sound was formed. We hear, therefore, the friction-sound during expiration alone; and this it is important to know, as, especially in very small, circumscribed pleurisy, the sound is not very distinct, and is very similar to the crepitant râle which we hear in the first stage of acute croupous pneumonia, but which we perceive during inspiration alone, as this sound is produced by the air entering the air-vesicles and breaking up the sticky secretion beginning in them. Such cases of circumscribed pleurisy, which never go beyond the dry stage, must be very frequent, but are of so little moment to the patient that he mostly has no recourse to medical treatment at all. I judge of

their frequency from the fact that it is almost rare to find at a post-mortem no small fibrous threads of adhesion at some place or places between the two pleuræ. From the case before us, and from the others I have brought before you to-day, you will observe that it is not the pain or the stitch in the side, even if respiration is influenced by it, from which you make the diagnosis of the first or dry stage of pleurisy, but that the physical diagnosis alone—the fact that you hear on auscultation, during respiration, a friction-sound—enables you to recognize these attacks of "dry" pleurisy. As the patient is not too well nourished, and is decidedly feverish, we shall advise him to go home and to stay in bed till he is well. He shall have six leeches applied over the seat of the lesion, and take four grains of Dover's powder three times daily, besides the following antiphlogistic and diaphoretic mixture:

R Spirit. Mindereri, f3ij;
 Spirit. æther. nitros., f3ss;
 Tinct. verat. virid., ℥xxxvi;
 Aquæ florum aurant., f3ijss;
 Syrup. cortic. aurant., q. s. ad f3vj.

M. S.—A tablespoonful in half a tumblerful of water every two hours.

Attention must also be paid to his diet, which must be nourishing, but easily digested, as milk, soft-boiled eggs, oat-meal gruel, toasted white bread with butter, etc. The food should be given systematically, say every four hours, and his bowels must be kept open.

PLEURITIC EFFUSION.

Our next patient, John P., 39 years old, tells us that until now he has always enjoyed good health, and never in his lifetime—at least, so far as he can remember—has needed a doctor. About seven weeks ago he had to dig out a cellar, and stand a great deal with his feet in water. He contracted a cold, which, he thinks, commenced with a chill, but he is not certain. He says he felt hot and cold alternately, and had a cough, shortness of breathing, and severe pain in his left side. He stayed in bed for about a week, did not call a physician, but sent to an apothecary for something to make him sweat. He felt better after that, and resumed his work; but of late he has suffered more and more from difficulty in breathing, a short cough, and a dull pain in his left side. This pain is constant now, and so is the

dyspnœa. He does not expectorate anything. Besides these symptoms there is loss of appetite and of flesh.

Now, gentlemen, what ails this man? We have the same symptoms—pain in the side and disturbed respiration, besides cough and some fever—as in the last case, and loss of flesh. A decided loss in weight during the period of a few weeks points already to something graver; but, as the man has no other symptoms to guide us, we must again have recourse to physical examination, which will soon reveal the nature of the complaint. Anteriorly, there is clearness on percussion over the apices; the breathing, however, is harsher than normal, more puerile in character. The heart is undoubtedly displaced somewhat towards the right side, and there is uniform dullness on the left side from the fourth rib down. Posteriorly, I find a clear sound on percussion over the right side, but on the left side clearness above the fourth rib, and then a decidedly dull sound all the way down the chest. There is perfect flatness of the percussion-note. Further, on inspection, you will observe that, while the ribs on the right side move with each act of respiration, there is absolute immobility on the left side: the interspaces are effaced and do not sink in during expiration. Applying my hands to the sides of the thorax, posteriorly, and telling the patient to count, "One, two, three," I feel the vocal fremitus very distinctly on the right side, but not at all on the left side.

I shall now auscultate the patient's chest posteriorly. There is exaggerated puerile breathing on the right side, and above the ridge of the scapula on the left. Over the place of dullness I hear absolutely nothing, except over a small space between the fifth and the sixth rib, near the spine, where I hear a faint bronchial sound. The patient's voice is not transmitted to my ear over the dull space. But just above the line of dullness his voice has a bleating sound, which I want a few of the gentlemen present to hear: this sound is called *ægophony*. We have here absolute dullness on percussion, immobility of a part of the chest-wall, absence of respiratory sound and of vocal fremitus, therefore a pleuritic effusion. Seven weeks ago this man had an attack of pleurisy like James F., who has just left the room; but, in consequence either of neglect or of the different nature of the disease, the inflammation of

the pleura did not end with the dry stage, but effusion took place into the left pleural cavity, which latter is now filled with serum up to the fourth rib, pressing the lower part of the left lung against the spine. If the patient had now chills, higher fever, sweats, and a cachectic appearance, then my diagnosis would be *empyema*,—not an effusion of serum, but of pus. If the same dullness existed, but over the dull space should be heard bronchial tubular breathing, and bronchophony, *i.e.*, unnaturally distinct transmission of the voice to the ear, and *increased* vocal fremitus be felt, then the patient would have consolidation of the lung, or *chronic pneumonia*. We had such a patient a week ago in our clinic, and he promised to come here to-day, but he has not made his appearance, or else I should have been able to show you another variety of pain in the side and embarrassed respiration, and the differential diagnosis between pleuritic effusion and hepatization of the lung in pneumonia; but you will have to be satisfied with my verbal explanation and the case present. Remember, therefore, that in pleuritic effusion as well as in consolidation of the lung (which takes place, however, mostly at the *right* lower lobe) we have dullness on percussion, as in both the lung contains no air, being compressed and pushed towards the spine in effusion, and its air-vesicles being filled with products of inflammation in pneumonia. But in pleuritic effusion there is absence of respiration and of vocal fremitus over the place of dullness, while in hepatization of the lung, where the bronchial tubes are not compressed and the solid lung acts as a good conductor of sound, tubular breathing, bronchophony, and increased vocal fremitus are found. And while if to the physical signs of a pleuritic effusion chills, sweats, and all the symptoms of hectic fever are added, these denote change of the serous effusion into effusion of lymph, —*empyema*,—nearly the same hectic symptoms, if added to the physical signs of consolidation of the lung, mean destruction of the tissue of the latter, breaking down of the lung, and often caseous degeneration, or development of tubercles, which latter frequently happens in chronic pleurisy also. But what must we do to relieve our patient of the pleuritic effusion? We will give him a drachm of the acetate of potash in a tumblerful of water three times daily, to act on the kidneys; let him

take of the following prescription a teaspoonful three times a day in half a glassful of water:

R Potassii iodidi, gr. cccxx;
Tinct. cinchon. comp.,
Tinct. cardam. comp.,
Aquæ destillatæ,
Syrup. sarsapar. comp., aa f̄ij.

M. S.—Shake well,

gradually increasing the dose to a table-spoonful; feed him regularly and systematically with a good nourishing diet; keep his bowels open by salines if constipated; and apply locally a fly blister as follows:

R Emplastr. cantharidis, 7"–8";
ConspERGE cum

Morph. acetat., gr. iss.

M. Ft. emplastrum.

This should be kept on the skin over the dull space for eight hours, when it is to be carefully removed and a warm poultice substituted for it. The cataplasm is left on for about one hour, when any blisters which want to form will have done so. After each of the latter has been opened at its most depending point, the wound is dressed twice daily with benzoated zinc ointment spread on a piece of linen. If under this treatment the effusion becomes daily less, we need not do anything further, but if there is no marked improvement within two weeks we shall use the aspirator, draw off the serum, wash the cavity out with carbolized water, and inject diluted tincture of iodine.

Gentlemen, the cases brought before you to-day had all, as their main symptoms, pain in the left side of the chest and embarrassed respiration. To make a diagnosis in each case, either some more symptoms had to be elicited from the patient, or the history had to throw light on the case; but in some the physical diagnosis alone told us the nature of the malady, and in all a physical exploration was imperatively demanded to enable us to exclude organic affection, if such did not exist. Certainly there are many more diseases, as those of the heart, spleen, stomach, etc., where pain in the same locality may for the patient be the main symptom; but those shown you to-day will answer my purpose, which was to impress upon you the necessity of doing more than listening to the patient's symptoms as he tells them, and the importance of inquiring carefully into everything connected with the case, its history, etc., and, above all, never to for-

get to examine all the organs, no matter of how little moment the case may seem to be. In conclusion, I will add that the urine of every patient brought before you to-day had been carefully examined and the result been a negative one.

ORIGINAL COMMUNICATIONS.

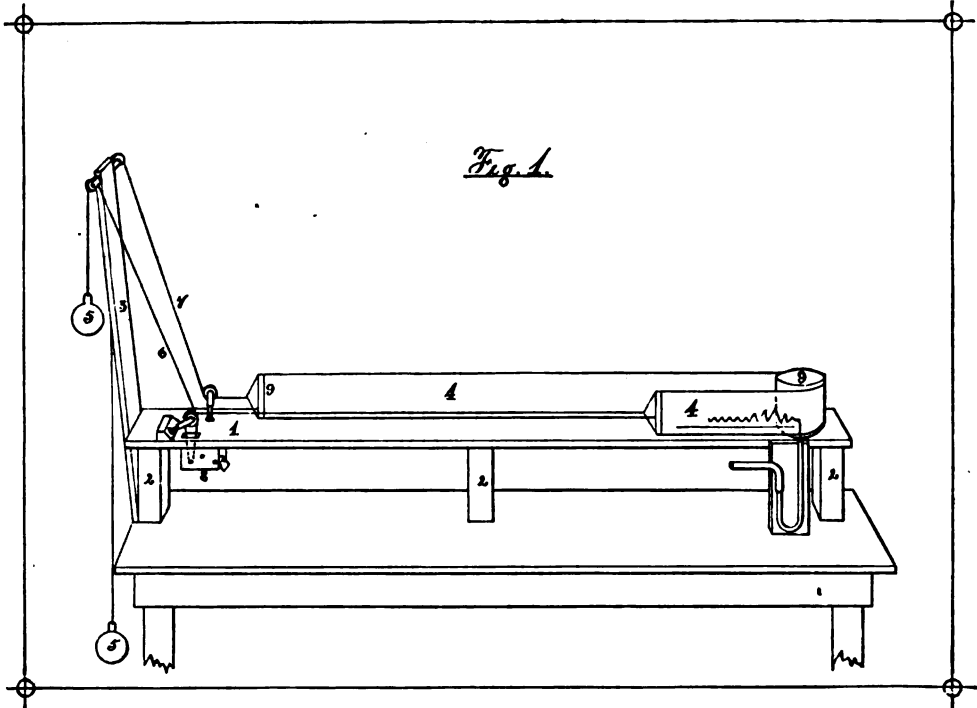
TWO NEW KYMOGRAPHIONS AND A TIME-RECORDER.

BY EDWARD T. REICHERT, M.D.,

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THE frequently-expressed wants of my students, as well as a long-felt and urgent need personally experienced, for an apparatus for graphically recording the effects of drugs on the circulatory and respiratory systems which should combine both cheapness and efficiency, have induced me to devise the following instruments. Apparatus of this nature is so expensive that there are few, if indeed any, of our medical colleges that are so fortunate as to possess duplicate instruments; and as a consequence, where there are several investigators interested in studying similar subjects in the same laboratory, the embarrassment of having but a single instrument has been, no doubt, as forcibly experienced in the discomfort of other teachers as by myself. There have also been times when I have been particularly desirous of investigating some point when for some reason recourse to the laboratory was not practicable; then I have felt the necessity for an instrument in my office. These reasons, and others less important, led me to endeavor to overcome these deficiencies, and with the result of the attainment of very gratifying success.

In planning the kymographions I have not been unmindful of the advantages—with which every physiologist is familiar—in using the continuous roll of paper. But these advantages are almost universally acknowledged to be probably even more than counterbalanced by the intolerable annoyance attending the necessary use of the pen and ink as a marker. This objection, in fact, has been so decidedly felt that experimenters at the present time have almost universally abandoned the use of the continuous roll and ink to substitute smoked paper. This paper being so extremely



perishable, the use of rolls is of course out of the question, and the ordinary method of using it is simply to cover the drum, allowing the ends of the paper to overlap, then pasting, and lastly smoking it. By this means a tracing about twenty inches in length can be obtained. In Schiff's laboratory, in Geneva, much longer tracings are made by the use of strips of paper which are retained in position by the necessary supports. The facility, however, with which the drum in modern kymographions can be raised or lowered sometimes enables the experimenter to make two or more tracings on the same piece of paper, with but a momentary interruption occurring between them; but as this cannot often be accomplished with advantage, and as when the paper has once served its purpose it must be removed in order to replace it, the time required in pasting on a fresh paper and smoking it not only causes considerable delay and a disadvantageous interruption in the course of the experiment, but oftentimes seriously interferes with a perfectly successful, and almost always with an accurate, result. While I have discarded the use of the continuous roll on account of the objections to the use of ink, I have endeavored to overcome the troubles ex-

perienced in the use of the smoked paper by using strips of an adequate length to fulfil the general requirements of the experimenter, and by reducing to a minimum the time required to replace the marked paper, and these latter requirements I have successfully met by using mechanical devices for retaining the paper in position, thus ignoring the paste-pot, and by taking advantage of these devices in keeping a stock of smoked paper continually on hand.

The kymographion represented in Fig. 1 is the instrument I first devised, and its construction is so very simple that any one having the least mechanical ingenuity can make a duplicate with ease. The framework of the apparatus simply consists of a body-board (1), which is about seven feet long by eight inches wide, and which is supported by three legs (2). At one end of the board is fastened an upright (3), which is inclined outwards, and which is about four feet long. Near the top of this, and fastened to the edges, are two pulleys, from which two weights depend. At the opposite end of the body-board is placed a wooden cylinder (9). The glazed paper is cut in strips six inches wide and seven feet long, each end of the strip is fastened by clamps (5), these clamps in their turn

being fastened to the ends of two cords (6 and 7), which are connected with the weights, the cords being arranged about the several pulleys and clock-work (8) as is represented in the figure.

The clamps for attaching to the ends of the strip of paper are each made of two strips of wood seven-eighths of an inch wide, three-eighths of an inch thick, and six inches and an eighth long. The lower ends are connected with each other by a hinge, the upper ends by a $\cap$ -shaped piece of stiff, heavy wire, and the inside of each piece, where it comes in contact with the paper, is lined with a piece of sheet rubber. The hinge on the bottom of the clamps and the movable $\cap$ -shaped piece at the top allow of the opening of the clamps with perfect facility, while the rubber lining effectually prevents the slipping of the paper when the clamps are closed. In fact, the clamps hold so tightly that the paper will tear before it can be pulled from its grasp.

One of the cords, it will be noticed, is run around the barrel of one of the wheels of the clock-work (8), as represented by the dotted lines. The clock-work simply consists of the three wheels, as in the second apparatus to be described, and is only for the purpose, as in it, of maintaining a regularity in the movement of the paper. The motor power is supplied by the nearest weight, which is heavier than the other, the latter, it will be observed, merely serving as a counterbalance and keeping the paper tightly fixed against the cylinder (9) as it is being pulled around by the heavier weight.

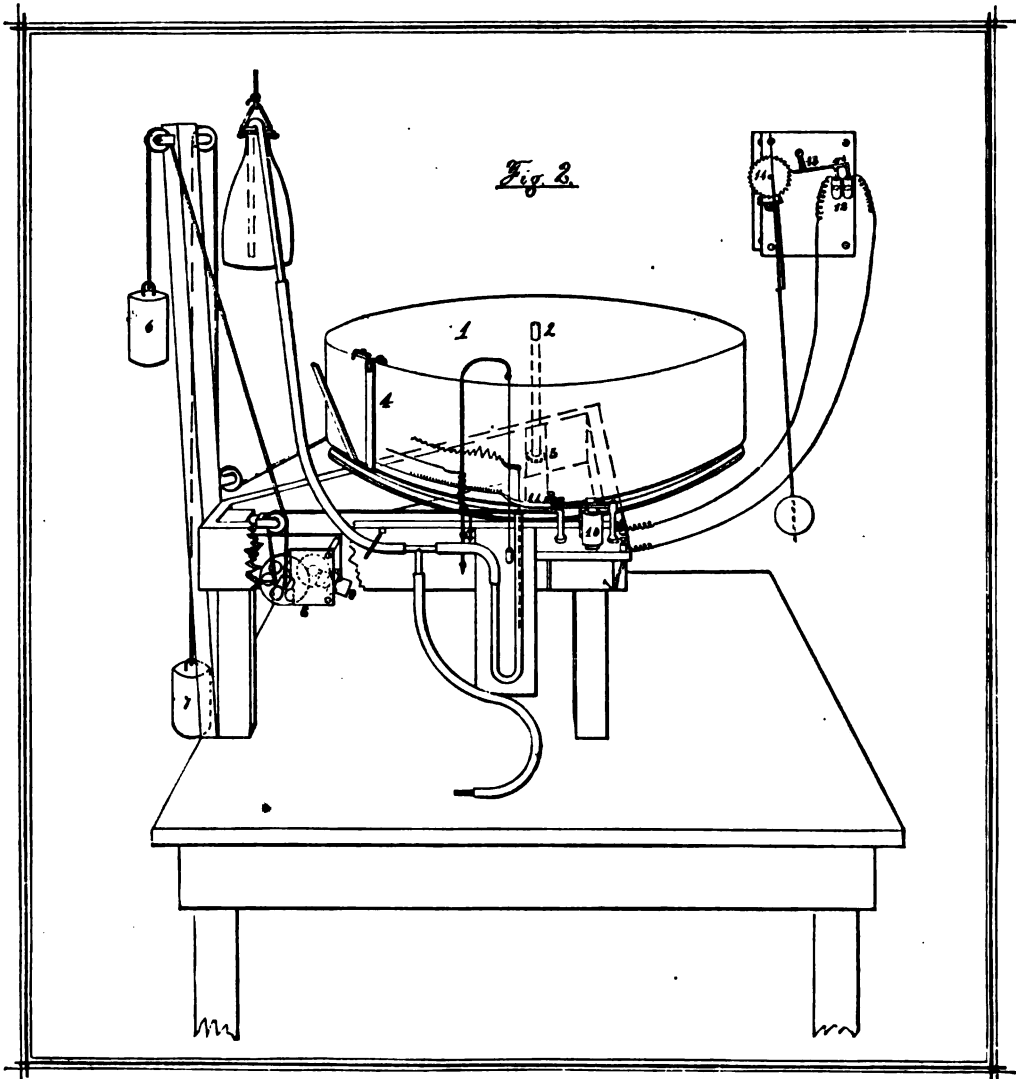
In order to place the paper in position, lay it on the top of the body-board, which is made wide especially for this purpose, then attach the clamp at the end of the cord to which the light weight or counterbalance is attached. When the weight is set free, the clamp to which the cord is attached will be drawn back to the pulley and then be held stationary. The other cord is now drawn around the front of the cylinder backwards and fastened to the other clamp, and after this is accomplished it is a very simple movement to get the paper in position ready for recording. In the figure representing this instrument the time-recorder and the complicated details connected with the manometer are, for simplicity's sake, omitted. There are also some points connected with the motor

apparatus which will be given more in detail in the description of the second instrument. I may add, however, that this kymographion performs the work as beautifully and satisfactorily as any of the many kymographions I have used or seen used, and the great advantage it possesses over all others lies in its extreme simplicity and cheapness and the facilities it offers for making tracings of any reasonable length, —from a few inches to ten feet or more. The objection, however, to this apparatus is that, on account of its length, it is inconvenient in crowded quarters; and as a consequence of this I devised the second kymographion, in which this objection is effectually overcome without in the least diminishing its efficiency.

Fig. 2 represents the improved kymographion with all its essential appurtenances, and when complete, excepting a few minor details, as represented in the drawing, occupies a space about three feet square. The essential parts of the apparatus are the drum, the framework, the motor apparatus, the manometer, and the time-recorder, which will for the sake of convenience be referred to *seriatim*.

The *drum* (1) consists of two disks of wood, each being three-fourths of an inch thick and twenty-five inches in diameter, which form the top and bottom, the circumference being formed by a strip of sheet-metal or stiff binders' board six inches wide. In the axis of the drum is a quarter-inch hole, which is penetrated by a pin (2) of a slightly less diameter, and which is fastened in the framework (3), and around which the drum is permitted to revolve. On the under surface of the drum is affixed a third disk, one inch less in diameter, and which has a groove cut in its circumference, in which a cord is placed, which serves to revolve the drum. By placing a small iron washer beneath this grooved disk at the base of the pin, as shown by the dotted lines (3), friction caused by the movements of the drum on the framework is effectually overcome.

The paper is fastened to the drum by two clamps (4), one of which is represented in the drawing as being open and in a position to receive the end of the paper. These clamps are simply pieces of wood, as previously described in connection with the first kymographion, the side of the drum, however, being made to serve in



place of one of the pieces in each clamp. The lower ends of the clamps are fastened to the under surface of the drum by means of hinges, which allow of freedom of movement, as represented in one of the pieces which is open; and when closed the upper ends are held firmly in contact with the side of the drum by a simple mechanism, which is so distinctly shown in the drawing as to require no descriptive details. This arrangement of the clamps allows the paper to be removed and replaced with the utmost facility, and, moreover, by changing their relative positions, tracings may be made of any desired size from a few inches to the full length.

The *framework* is trapezoidal in shape, made of strips of wood three-fourths of an inch thick and three inches wide, and is supported by three legs, the one beneath the drum not being shown. An extra strip running from before backwards, and in which the pin (2) is placed, is represented by the dotted lines.

At the left end of the framework is placed an inclined upright (5), which, as in the previously-described apparatus, supports the weights (6 and 7) that are connected with the motor apparatus.

The *motor apparatus* is very simple, and consists of two weights (6 and 7), each of which is connected with the end of a cord

which, if we commence at the end at weight 6, passes over the pulley at the top of the upright, thence downwards to the second pulley at the base of the upright, thence around the groove in the circumference of the disk which is fastened to the bottom of the drum, thence to the front pulley at the base of the upright, thence downwards, making a half-turn around the barrel of the axle of the winding-wheel of the clock-work (8), thence upwards to the pulley at the top of the upright, and finally to weight 7.

These weights, although represented in the figure as being of the same size, are, in truth, widely different in this respect, the one (7) which is the motor power weighing about four pounds, and the other (6) weighing only about nineteen ounces and merely serving as a counterbalance. It is obvious now that, if these weights were free to move, the force of gravity would bring the heavier weight to the floor with a rapid movement and of course a correspondingly quick revolution of the drum: so, in order to obviate this, as well as to introduce a regulating mechanism by which the revolutions of the drum should be made regular and steadied, a portion of the works of an old brass clock was connected with the cord, as already explained.

This clock-work is simply an old set of works from which all the wheels have been removed except the three represented in the figure (8), which will be recognized by any one familiar with the construction of clocks as being connected with the striking apparatus. Around the barrel (the cylinder around which the cord is wound) of the wheel which is directly in contact with the cord is placed a piece of rubber tubing, which is fastened tightly by means of a proper cement. The object of this rubber is to afford friction, whereby the cord is prevented from slipping, as it would obviously do were it brought in immediate contact with the smooth metallic surface. This clock-work, let it be understood, is not the motor power; its only purpose is to regulate the steadiness of the revolution of the drum and to some extent the rapidity of its movement.

The speed with which the revolution of the drum is made may be altered in two ways,—either by a change in the relative sizes of the two weights or by diminishing or increasing the size of the *alæ* of the fly-wheel (9). It is very apparent, *cateris*

paribus, that the greater the surface of these *alæ* which is brought in contact with the air,—or, in other words, the greater the amount of friction produced,—the more slowly will the drum revolve; and in regard to the weights, the greater the difference between the sizes of the weights, the greater will be the velocity of the drum, or *vice versa*, as the case may be.

The movements of the drum can be held under complete control by fastening a lever on the under surface of the frame, in such a position that when it is closed (pushed to the extreme right) the end comes in contact with the fly-wheel (8), and when it is open allows of a free movement. This allows of the movements of the drum being started or stopped at pleasure.

After the drum has made a complete revolution and the paper removed, it can be returned to its starting-point in almost a moment by pulling consentaneously on the two cords 9 and 10. The peculiar mechanism in the winding apparatus of clocks, by which the barrel of the wheel around which the cord is wrapped or the spring attached revolves, is so well known as to require no detailed explanation, and it is sufficient only to say that the barrel, being free to move in the reverse direction without affecting any movements in the wheels, allows of this very rapid readjustment of the position of the drum.

The *manometer* and its appurtenances are essentially the same as in common use in all physiological laboratories. One slight modification to which I may incidentally allude is the marker for the abscissa-line. This is made by wrapping a piece of thin, stiff brass wire a number of times around the J-shaped wire (which suspends the string and weight for keeping the float-marker against the drum), so as to make a spring, one end of which is brought in contact with the paper and the other is allowed to press against the side of the framework. By having the marker thus arranged, the one end is kept constantly against the paper, while the utmost freedom of movement is gained for raising or lowering it, as the case may be.

The *time-recorder* is composed of two essential parts,—the *marker* and the *current-breaker*. The marker consists of a piece of sheet brass (11), which is wide at the point of soldering and gradually tapers towards the free extremity, and which is

soldered to the arm of an ordinary telegraph "sounder" (10). This piece describes a curve in front of the float-marker, to reach the paper with which it is brought in contact. This curve gives the marker sufficient elasticity to keep it firmly in contact with the paper, and yet allows of sufficient movement to overcome effectually any unevenness on the surface of the paper, while the width of the strip gives it sufficient body so as to make a clear up-and-down stroke without the existence of any undue vibrations being set up in the end in contact with the paper. The advantage in using a piece of sheet brass in the place of wire, as is frequently used, is that unless the wire is heavy the amount of friction at places of considerable unevenness in the paper is so great as to arrest the movement of the marker; and if the wire is thin, similar difficulties are experienced. These obstacles are effectually overcome by the use of the sheet metal as described; and in proof of the accuracy of this assertion I would state that the marker just described will work perfectly over a projection nearly a quarter of an inch high.

The mechanism of the recording of the time, as already may be inferred, simply consists of the vertical strokes made by the marker, each of which represents a given space of time. These strokes are made by the making and breaking of an electric circuit. When the current is on, the marker rests at its lowest point, as is indicated in the tracing by a straight line. Just as soon as the current is broken, the attraction of the magnets for the arm of the sounder is destroyed, and as a consequence the spring which is attached to it throws it upwards; and if the breakage of the current is only momentary, a single vertical stroke is made, as is represented in the drawing.

The application of the mechanism for the momentary breakage of the current is the principal new feature I have added in this connection. An examination of the relatively enlarged diagram of the clock in the upper right-hand corner will show that it consists of three essential parts,—the clock-work, two cups of mercury, and a lever. The clock-work consists of the wooden works of an old-fashioned clock from which all the wheels have been removed but four,—the one seen in the diagram, one directly connected with the weight, and two intermediate. On the

extreme right-hand side of the face of the clock-work are fastened two glass cups partly filled with mercury, each of which is connected with the "sounder" by a wire (the battery, which consists of a single Callaud or gravity cell, is purposely omitted in the drawing). There being no connection between the mercury in the two cups, the circuit of course is broken; and in order to make this connection a piece of sheet brass was taken and cut in the form as is shown in the figure (13), which, as will be seen, is essentially a lever that is suspended by a vertical arm which is attached to a screw and forms the fulcrum. One extremity of the lever is brought in contact with the teeth of the wheel (14), and the other, or $\cap$ -shaped extremity, is free to move. It is now clear that if the $\cap$ -shaped end of the lever were permitted to fall, a communication would be established between the mercury in the two cups, the current passing from one cup to the other as indicated by the arrow, and as a consequence the circuit would be closed. The end of the lever is here shown, for clearness' sake, raised to an exaggerated degree: practically it is never raised more than sufficient to break the current momentarily, or, in other words, merely to sever the contact with the mercury.

The mechanism of the raising and the falling of the lever will be obvious at a glance. The short extremity of the lever, which is in this instance the "power" end, is made to project between the teeth of the wheel (14); and, as a consequence, as each tooth is forced past it in its revolution, the end of the lever is forced downwards and the $\cap$ -shaped end of the lever simultaneously thrown upwards, but, of course, to a far greater extent, owing to the position of the fulcrum. Now, in order to obtain a momentary breakage of the current, the "power" end of the lever must be so arranged that when the pendulum is at the extreme right the tooth of the wheel is almost in contact with the end of the lever. If it is thus fixed, the next movement of the pendulum to the left will allow of the sudden escapement of a tooth of the wheel, and a resultant sudden depression and escapement of the "power" end of the lever, with a simultaneous sudden rise and fall of the distal end, thus making a momentary breakage of the circuit.

The time recorded can be modified by

moving the pendulum weight or by affixing to the toothed wheel others in which a variable number of teeth are omitted or added, so that the time may be recorded varying from fractions of a second to a minute or more, as desired.

I have sometimes experienced considerable trouble in properly adjusting the end of the lever to the teeth of the wheel; but if the above directions are carried out, with the exercise of a little patience, it can readily be accomplished, and when once arranged the apparatus will do the work as well as any instrument manufactured. I may add that an advantage is gained by twisting the end of the lever corresponding with the wheel so that its broad surface comes in contact with the teeth.

In regard to the cost of the apparatus, I will state that either kymographion with all its appurtenances, including the time-recorder, can be made for from five to seven dollars, the most expensive parts being the "sounder," which can be bought in New York* for two dollars and seventy-five cents, and the gravity cell, which will cost one dollar. Old clock-works can be bought for their weight as old brass. The carpenter-work amounts to a nominal sum, —a dollar or two, according to the instrument. Other portions of the apparatus can be readily arranged without the aid of skilled mechanics.

CAN POTT'S DISEASE OF THE SPINE OCCURRING IN CHILDHOOD BE CURED WITHOUT SUBSEQUENT DEFORMITY?

Read before the Philadelphia County Medical Society

BY OSCAR H. ALLIS, M.D.,

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ONE of the functions of the spinal column is support. Composed as it is of twenty-four separate vertebræ, the careful observer will see from first to last how each successive one is adapted to the gradually increasing burden. In the dorsal region the demand for greater strength calls for sudden and important changes in the supporting column, for upon this part the weight of the arms and all they can grasp is suddenly thrown. But this is not all. Strange as it at first glance would appear, the column in the very part where

the burden would seem most to fall, and the greatest strength needed, gradually arches backwards, departing from the primal law of nature that we see in the straight trunk of the oak, and, in departing from it, sacrificing *strength* in one part to the architectural completeness of the whole. That the column itself is *weakened* by this departure from the direct course nature is ready to admit; for with the beginning of the dorsal region changes most emphatic and abrupt take place. The spinous and transverse processes, which in the cervical region were but rudimentary, now take on completeness; while in the bodies, the ribs, and the sternum, we see the loss more than adjusted; and it will be interesting, if not instructive, to pause a moment and examine step by step how beautifully and how successfully this seeming defect has been overcome.

And, first, let us note the changes that take place in the bodies of the vertebræ. In the cervical region the bony substance is distributed laterally, so that the shortest diameter and the least bony support is from before backwards. This is through design. In the neck the freest and most important motions are from before backwards, and in this region the multitude of large strong muscles compensate in no slight degree for the small and inadequate bony support. But when we examine the dorsal region, we find the greatest amount of bone-substance from before backwards; and, as if to increase still further the antero-posterior diameter, long strong spines —the longest in the entire column—are to be found: so that if we measure from the front of the body of a vertebra to the tip of its spines, we will find the middle dorsal to be nearly three times as deep as the middle cervical. In the diagram I have represented the spines as directed horizontally back-

wards; but such a course would be a loss in convenience as well as in strength. Man must lie on his back, and this would be impossible with horizontal spines: a glance at the figure, however, will demonstrate that spines thus directed would be

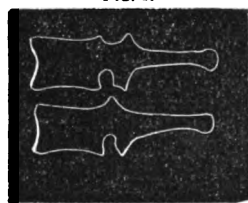


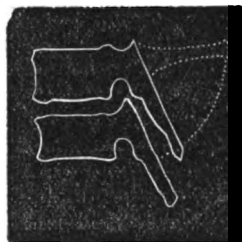
FIG. 1.
Diagrammatic, representing the antero-posterior diameter of dorsal vertebræ.

more than an inch apart at their tips, while

* Otto Rauda, 194 Fulton Street.

in the normal spines we see them lying in close proximity,—

FIG. 2.



Diagrammatic. Showing by contrast the compactness of the spine when compared with Fig. 1, the possibility of shorter and hence stronger spinous ligaments, and how the same length of spine, by being turned downwards, will not interfere with dorsal decubitus.

a plan that admits of short strong ligaments and a compact structure. Thus we see that the first step in overcoming the weakness entailed by a curved spine is provided for by greatly increasing its antero-posterior diameter.

We have now to see how the column is supported laterally. This is accomplished chiefly by the ribs. As these are designed to support the vertebral column, protect the thoracic viscera, and give attachment to powerful muscles, their connections with the transverse processes and the column must be close and intimate, as if all were united by bone; and yet this cannot be, since the great function of respiration depends upon the movement of the ribs. To have a structure movably immovable is a paradox exemplified in this part of the economy.

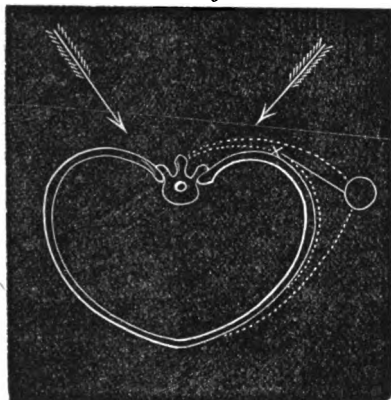
It will be noticed that the rib abuts against *two* vertebræ. In a little excavation, made at the expense of two adjacent vertebræ, the head of the rib finds a secure lodgment; and to add to its security a little ridge that divides the head of the rib into two facets serves as an attachment for a short strong ligament that connects it with, and makes it an *integral* part of, the intervertebral substance. About an inch from the head of the rib, and upon its under border, is a little spur. This is designed to fit into a little excavation in the upper front part and tip of the transverse process, while, to complete the union, ligaments in every advantageous direction are found. No such extraordinary care to bind two structures together could be without a purpose. The ribs thus become practically immovable; a slight pivotal movement is all that is left, and this is only possible through slight rotation upon the interarticular ligament,—*a motion without separation*. Dislocation here is impossible. Fracture of the transverse process may exceptionally take place; fracture of the arch of the rib is not impossible; but dislocation of the head of the rib is impossible. So

intimate a relation between the vertebræ and ribs—possibly even stronger than actual bony continuity—is necessary for the work to be performed. By a semicircle whose centre is but little in front of the body of the vertebra, and by the arc of a circle of greater radius, the rib completes its course. The junction of these two curves of the rib is a weak point, the most frequent and safest point for it to fracture. Section of the rib near its vertebral and sternal ends will show the compact tissue—*i.e.*, the relative weight and strength—largely in excess in the former position, while the actual size is increased at the sternal end. The sternal end is light as possible, since its chief support is from the vertebræ; but its size is increased and shape changed, so that the amount of bony matter left can be most advantageously disposed to meet the great demand upon it. One of these demands is to hold the body in an erect position. Between the *expanded* chest and the expanded pelvis muscles take their course, and so powerful is their action at times that five cases are recorded of transverse fracture of the sternum by their action alone; while the more frequent rupture of the rectus abdominis shows that the sternum, supported mainly upon the tips of the ribs, is more than a match for them. To form a just idea of the chest, it should be regarded as a series of bony hoops, placed one below the other, gradually increasing in size, and all firmly united at opposite points in the sternum and vertebræ. Upon such a structure the shoulder is to rest. How it rests, and how its greatest burdens are made to contribute to the strength of the vertebral column, is truly a matter of wonder. The shoulder rests upon the chest only at two points,—*viz.*, at the upper part of the sternum and at the point of greatest convexity of the ribs. At the latter point the posterior border of the scapula is held by the action of the rhombo-serratus* muscle, a muscle that passes from the spines of the vertebræ to the front part of the ribs, binding, when in action, the posterior border of the scapula to the arch of the ribs *at the point* where support is so greatly needed, while the pectoralis major, trapezius, and latissimus dorsi, whose actions are so happily displayed in the great

* Anatomists will please pardon this attempt at word-building.

power of the arms, can never act without still further bringing the posterior border of the scapula to the support of the chest. If now we look at the posterior part of the ribs supported as just described, we will see how admirably they are designed for lateral supports to the vertebral column.

FIG. 3.



Diagrammatic. The inner dotted line represents the rhombo-serratus muscle; the star in the dotted line, the point where the scapula touches by its posterior border the greatest convexity of the ribs. The outer dotted line represents the trunk-muscles that attach to the humerus (O), which by their action press the scapula at the star (X) more firmly upon the ribs. The arrows show the direction of the postero-lateral support to the vertebral column from this arrangement.

What I have already said finds its relevancy to my subject only in contributing to the proposition that to the chest, as a whole composed of separate but mutually dependent structures, and not to the vertebral column, is due its great strength; and it will be my further purpose to show that disease and loss of substance in one of its most important factors cannot take place without serious and important changes in the structure as a whole.

A century ago, Percival Pott, Surgeon to St. Bartholomew's Hospital, published an article on "the palsy of the lower limbs," in which he so minutely described the disease under consideration that it has ever since borne his name; and candid competent writers of the present day acknowledge that little has been added by modern surgeons. He taught—

(1) That the disease is not due to traumatism. That however direct violence, overwork, strain, etc., may at times be regarded as the exciting cause, yet in the majority of cases no adequate cause can be found for so grave a disorder.

(2) That the disease is not of the

ordinary inflammatory type, but is tuberculous in its nature.

(3) That the only cure of the disease is through ankylosis. That by the melting away through caries of the bodies of the affected vertebræ a cure is effected only through ankylosis of the sound vertebræ adjoining the diseased section.

(4) That a cure consists in restoring the patient to health and usefulness, and not in restoring symmetry. That deformity of variable extent is inevitable.

The precise language employed under these four heads will not be found in the original article of Mr. Pott. I could not quote from him without occupying more space than I am allowed. They are, however, his in point of fact; and to their elaboration and defence I now ask your attention.

Whether (point 1) the disease is or is not due to traumatism is a question under dispute. That the origin is frequently so insidious as to escape the watchful care of the mother is, however, a clinical fact; for often the child is only brought to the physician after the prominent spine is present, a condition which shows the sad havoc already wrought.

Points second and third are affirmed by modern pathologists. Billroth says there are no instances to be found in which the substance lost through caries of the bodies of the vertebræ is replaced; while every author that I have examined states that the cure is, as a rule, through ankylosis, though in exceptional cases the ossification of the reparative tissue is incomplete.

The fourth point—and the one to which all that I have said, either directly or indirectly, tends—is the cure. Is deformity inevitable?

Let us examine a case in which the disease has been confined to a single vertebra; its body and the adjacent vertebral cartilages have melted away; the upper sound vertebra has descended to rest upon the first lower sound one, the spinous process has become prominent in the dorsal aspect, and the whole finally consolidated by ossific transformations.

A glance at the successive steps through which the disease as just described passes exhibits in a most wonderful manner a watchful supervision in the human economy, even in a disease whose havoc presents scarcely a parallel. The disease begins in

the median line, in the bodies or intervertebral substances, and in most instances leaves the apophyses unaffected. The bodies melting away throw the superincumbent weight upon the articulating processes and the spinous ligaments. By slow degrees the ligaments between the laminae and the spines yield to the superincumbent weight, while upon the articulating processes and the ribs—as upon an axle—the superincumbent weight slowly and safely sinks to a bed of support. This inclination forward of the parts above the diseased point is always in the direct line, and not by twist or rotation of the column. The vertebral canal in this bending forward is lengthened *only* in its *posterior* aspect, and in this shows a wise provision; for the attachments of the membranes of the cord are only to the anterior portion of the canal; and this portion of the canal is not so affected as to put the membranes or cord on the stretch or affect the exit of the spinal nerves.

Thus the disease, even when taking a natural course, seems to be guided through many dangers to a safe termination; and it is not strange that Bryant, in a recent edition of his "Surgery," should say, "It is an interesting clinical fact that the *best cases of recovery* from the *worst examples* of spinal curvature and disease are to be found amongst that miserable class of patients who have never had any chance of receiving proper treatment, who have never had rest or any care, in whom the disease has run its course unattended and uncared for, and yet in whom a cure has taken place with firm ankylosis, although with deformity."

Nature cures, whenever a cure takes place, with ankylosis and deformity. Can art or science step in and prevent this deformity?

Let the instance of a single diseased vertebra be retained. If we measure the body of a vertebra at the points of disease, we will find that the long antero-posterior diameter is about equal to the vertical diameter when the adjoining intervertebral substances are added. When the body and cartilages melt away and the healthy adjoining vertebrae come together, their changed axes will meet at an angle of 45° ;^{*} and this fact (the fact that the disease has been confined to a single vertebra) may be noted

^{*} Under the circumstances above described, 45° would be the maximum change in the axes of the affected vertebrae. In many instances it would, no doubt, be less.

by the prominence of the spinous process in the affected region. Here it will be seen that the prominent spine belongs to the first sound vertebra *above* the one diseased, and that the spine of the affected vertebra has not changed its relations to the sound underlying one. If this statement calls for support, it may be seen by contrast in cases where the disease has been manifested in the entire series of dorsal vertebrae, and where there is not a single prominent spine in the whole region. If still further illustration is necessary, it may be supplied by this,—that the *change in the position of the spine* is produced by a *change in the position of the body* of the vertebra. When, then, the body melts away, there is nothing left to influence its spinous process, which remains attached and closely bound to the first sound underlying one.

In a growing child the spinal column increases in length like the long bones. Each segment has two epiphyseal laminae. In the destruction of a single vertebra and its adjoining intervertebral cartilages we have not only the epiphyseal laminae of the bone destroyed, but by the loss of the cartilages we lose the laminae of the sound vertebra adjacent to the cartilages: so that while the disease proper is confined to a single vertebra and two cartilages the arrest in growth has extended to four ossific centres. But this is not all: two sets of ribs have shared in the morbid process. Their immediate attachment to the intervertebral substance has made their escape from disease impossible, and the bony cure has included them in a single solid unyielding mass.

From the moment of the onset of the disease, to the time when the patient shall have attained his fullest development, two processes must be at work,—one of steady expansion and growth, the other of fixation, hindrance, and opposition. The arms and legs and unaffected structures push onward to seemingly undue proportions, while the consolidated vertebrae and ribs distort with firm and tireless grasp all contiguous parts.

FIG. 4.



Diagrammatic. Showing how the spinous process of the upper sound vertebra becomes prominent by the forward inclination of the parts above the disease.

The affected vertebræ, fixed at an angle of 45°, control the development of the trunk, and lift the scapulæ and shoulders, while the affected ribs, unable to expand from loss of their vertebral epiphyses, narrow the chest and distort the sternum. Is there any escape in art or science from this? *I answer, not unless we can effect a cure without anchylosis; not unless we can supply lost structure; not unless we can impart to scar-tissue all the activity that healthy structure has.* The cure of spinal disease does not depart from the law of cures in other parts of the economy, that follow loss of substance. Disease of the hip in childhood is followed by arrest of growth in the femur and asymmetry of the pelvis. A one-sided pleurisy with adhesions occurring in childhood will present a striking distortion in after-years. In the loss of an eye in childhood, not alone the orbit, but the whole side of the face lags in the progress of development. But probably the most striking analogy is in the sad havoc from a burn that involves the neck, chin, and lips of a child; I mean a burn that destroys the skin, and one in which the resulting cure binds the underlying muscles and superficial bones in one unyielding mass. If one will see such a *cure* in childhood, it will present none of the distortions of later life; and the reason is not so much that the scar contracts, but that the cervical vertebræ in the back part of the neck so rapidly outstrip the scar-tissue in the front part that the latter *compels* the former to arch forward.

The deformity is consequent upon the unequal development, and no art can prevent it. The arrest of disease is at best a compromise. In the disease under consideration, the child, from a sickly, half-palsied object of commiseration, can be made sound, happy, and useful; and it is folly to ask more. For a century every device that human ingenuity could suggest has been brought to bear upon the unfortunate of this class; but to-day the deformed victims of this disorder are as numerous in the great medical centres of our land as at any previous period of the world's history.

What I have said was written far better a century ago; and I shall close with the following observations:

That one who has conducted a case to a successful issue—who has restored the patient to health and activity—has done all that medical skill can do.

That he need not reproach himself with

any subsequent deformity; nor has the profession any right to make such a charge.

That the candid surgeon will acquaint the friends of the patient with the inevitable result, and not make promises that will in the end prove delusive.

1604 SPRUCE ST., PHILADELPHIA.

THE INFLUENCES THAT PREDISPOSE TO PULMONARY CONSUMPTION.

Read before the Philadelphia County Medical Society, November 9, 1881.

BY JAMES C. WILSON, M.D.

IN the course of the discussion of an interesting paper upon the "Pre-Physical Sign Stage of Phthisis," read by Dr. Eskridge at the last meeting of this Society, the question, What constitutes a predisposition to pulmonary phthisis? arose. This question remained unanswered, and it was, indeed, but indirectly connected with the subject at that time occupying our attention. It nevertheless appeared to me to be a practical and suggestive query, and therefore not lightly to be passed over. The recognition of the peculiar liability to special forms of disease which constitutes a predisposition, in individuals, families, or communities, falls properly within the scope of preventive medicine, and is therefore, from a practical point of view, even more important than the recognition of such diseases themselves when established, just as prevention is proverbially better than cure. In the case of a disease so common, so intractable, and so progressively fatal as pulmonary consumption, the question of individual and family predisposition assumes the gravest importance. Upon its answer frequently depend interests of the greatest magnitude,—the choice of a career, of place of residence, marriage, a life of usefulness and comparative health on the one hand, or, upon the other, blighted prospects, illness without reasonable hope of cure, and an early grave.

My object in reading this paper is to discuss briefly and in a manner rather suggestive than exhaustive the influences which predispose to pulmonary consumption. It is only fair for me to state at this point that I have no new facts to communicate, hoping rather to call forth, from the unrecorded experience of those present, facts that have escaped the observation of the majority.

We encounter on the threshold of our inquiry two questions, which must be answered before we go on with the discussion.

First, what is meant in general by *predisposition* to disease?

I venture to so modify the definition of Dunglison that it should read thus: "Predisposition, that constitution or condition of the body which renders it peculiarly liable to disease under the application of an exciting cause."

The time-honored method of the textbooks, which divides causes into *predisposing* and *exciting*, has been a source of endless confusion and perplexity. Liebermeister, writing of the etiology of the infectious diseases, has suggested that the expression "predisposing influences" be substituted for "predisposing causes," as tending to clearer views of the origin of diseases. Every attack of disease must be due to an exciting cause or causes; predisposing influences may render the individual less or more prone to the action of the exciting cause, but no degree of predisposition can of itself, in the absence of the exciting cause, give rise to disease. It is a matter of common experience that individuals strongly predisposed to pulmonary consumption escape that disease altogether, and ultimately perish of some other affection, or even of old age, whilst, on the other hand, persons in whom the closest scrutiny fails to bring to light any distinct predisposition whatever, contract the disease under the direct action of some one of its well-recognized exciting causes.

The second question is not so readily answered. What is pulmonary consumption?

By common consent, both among medical men and others, this term is universally used to designate chronic wasting diseases in which the principal symptoms during life and the principal lesions found after death are associated with progressive destructive changes in the lungs. But these diseases present clinically an endless variety of cases differing among themselves in the mode of origin of the disease, its progress, duration, and the grouping of the symptoms. So that, whilst we are fully agreed as to the meaning of the term pulmonary consumption in general, when we come a little nearer and attempt to define the disease with accuracy, and especially

when we attempt to classify the cases into separate, well-characterized groups, we are met with difficulties that are practically insurmountable. No writer, as far as is known to me, has yet succeeded in framing a succinct description that would include all cases, or in so grouping the varieties of pulmonary consumption that his classification would fulfil the requirements of all the cases met with in every-day practice.

This is, without doubt, due to the fact that the variations in the clinical history of the disease and in the anatomical changes encountered in the lungs depend in part upon variations in the intensity and duration of the inflammatory processes localized in the lungs, and in part upon those constitutional tendencies which determine the character and degree of reaction to the primary irritation and infection, the pathological problem in the advanced stages of the disease being in every case a very complex and difficult one.

Here, however, as elsewhere in pathology, morbid anatomy sheds light upon the subject. This light was for a long time, during the early investigations into the nature of tubercle, very dim, and served to make the darkness in which the subject was enveloped visible, rather than to dispel its shades. It has, however, steadily gained in brightness until the pathology of pulmonary consumption is now comprehensible, and an outline classification of the cases upon the basis of the preponderance of certain anatomical lesions has become possible.

The essential lesions consist in the changes brought about by inflammation, and are, in general terms, of three kinds, corresponding to the tissue involved in the inflammatory process. They are,—

a. Chronic inflammatory processes in epithelial structures—catarrhal pneumonia.

b. Chronic inflammatory processes in lymphatic structures—tubercle.

c. Chronic inflammatory processes in the interlobular connective tissue—interstitial pneumonia.

The lesions due to these three processes are to be found in most, if not in all, cases. They are present in varying proportions, now one, now another predominating, most frequently no single lesion being conspicuously in excess of the others. When, however, any one of the three processes has throughout the case constituted the principal morbid factor, the clinical

aspect of the disease is usually so modified as to distinguish it from the general picture of pulmonary consumption, and to enable us to refer it to one or another of three separate groups. These are,—

- A. Catarrhal phthisis.
- B. Tubercular phthisis.
- C. Fibroid phthisis.

And they embrace many, but by no means all, of the cases.

Regarding pulmonary consumption in all its forms as an inflammatory affection, I look for its exciting cause, in all cases, in some irritant. This irritant may come from within or from outside the body. It may consist of the non-expelled products of a simple catarrhal inflammation called forth by changes in temperature, or by blood, or mucus, or pus, drawn deeply into different portions of the lungs during the inspiring effort of cough; it may consist of that obscure product of caseation which, borne in the lymph-channels or in the blood itself, is capable of causing those changes in the lymphatic tissues which have been named tubercle, and in this instance it may be derived either from a caseous mass in the individual himself, or exceptionally from a similar disintegrating nodule in the lungs of a close companion, for in this way alone is it possible to explain the well-proven facts of the direct transmissibility of consumption; finally, the irritant which is the exciting cause of the disease very frequently consists of minute particles of solid matter swept into the lungs upon the air-stream for long periods of time, as happens in many trades and occupations. There are without doubt other irritants capable of inducing chronic inflammation of lung-tissues, and thus playing the rôle of exciting causes of consumption, that are as yet involved in great obscurity, or altogether unknown.

The vast majority of individuals are constantly exposed to these exciting causes. According to Hirsch, two-sevenths of all deaths are due to consumption of the lungs. The concurrence of the predisposition and the exciting cause underlies the enormous prevalence of the disease; the absence of the predisposition explains the escape of multitudes. It is to be borne in mind that many who are predisposed to pulmonary consumption die of other affections early in life, or, at all events, prior to the development of the disease.

The problem of preventive medicine is

to recognize the predisposition in the individual, in order that he may be as far as possible removed from the action of the exciting causes.

Of race and national predisposition it is hardly necessary to speak. No race or nation enjoys exemption. The hybrid races are conspicuous for their predisposition to consumption. So notable is this fact that mulattoes are debarred from the privileges of life-insurance.

Climate in general terms does not constitute any especial predisposition to consumption. There are localities in all zones the inhabitants of which enjoy a relative immunity, yet there is no belt of the earth in which it is not very prevalent. From this we may infer that neither the continuous warm temperature of the tropics, nor the alternating seasons of the temperate zones, nor the perennial low temperatures of circarctic regions constitute a predisposing influence,—in short, that temperature, of itself, is inoperative. It is, however, established that those dwelling where the air is dry, even if it be cold, are less generally predisposed to consumption than the inhabitants of moist regions; those dwelling in uniform than those in changeable climates, and those in elevated regions than those living in low levels, the death-rate per thousand from this disease rapidly diminishing as we recede from the coast-line of mountainous countries.

As we approach the consideration of the influence of restricted locality, of occupation, mode of life, diet, and previous diseases, we are brought face to face with the fact that the conditions which in the individual go to form a predisposition to consumption are two:

First, a more or less marked vulnerability of the elementary tissues of the lungs; and,

Second, the tendency of inflammatory processes to run a peculiar course, and to result in products which do not proceed normally either to resolution or to suppuration, but remain stationary, or undergo retrograde changes of a cheesy nature.

These conditions are either hereditary or acquired, and the influences which tend to produce them are the influences which predispose to pulmonary consumption.

First, and of primary importance, is heredity. In view of the fact of the transmission of the same traits of face and form and the same mental qualities in

families through generations, and that such transmissions are the rule rather than the exception, it can excite no wonderment that constitutional tendencies to disease, or even peculiarities of bodily organs or tissues, are handed on from father to son.

The influence of heredity may manifest itself from childhood in a vague delicacy of constitution, or in the form of scrofula, or it may exist as a taint lurking under the semblance of the most perfect health. In many instances the children of consumptive parents present types of health almost ideal, until some depressing influence, physical or moral, lights up the smouldering tendency to a destructive fire.

The hereditary predisposition may be derived from parents not themselves the subjects of the disease. Thus, the offspring of feeble parents, or of near kin, or of old men, or the younger members of large families, where the interval between the bearing of children has been short, often inherit a strong predisposition to consumption.

Closely related to the subject of heredity is that of the influence of the conformation of the chest. Various alterations in the contour of the thorax have come to be recognized as indicative of a tendency to consumption. The varieties of departure from the typical form of the thorax that have been described by writers are the alar or pterygoid, the flat or paralytic, the transversely constricted, the pigeon, and the rickety. These sub-typical forms are in part inherited, in part congenital, and in part acquired early in infancy in consequence of disease, malnutrition, or errors in management. They give rise to diminished capacity of the thorax, and to limited respiratory movements, and are associated with arrest of development and early rigidity of the costal cartilages.

Marked alterations of the chest acquired later in life in consequence of errors in dress, of the cramped postures or vicious pressures of certain handicrafts, or of the enfeeblement of the respiratory muscles due to sedentary habits or prolonged illness, also exert an important influence.

Closely associated with the subject of enfeeblement of the muscles of respiration is that of diminution of the vital capacity of individuals predisposed to consumption.

Hutchinson established by extended experimental research the fact that in healthy persons there is a minimum of so-called vital capacity, varying according to the age, sex, height, and body-weight. Persons unable to attain this minimum, though in other respects healthy, are prone to develop chronic destructive diseases of the lungs.

There is yet another condition, more frequently inherited than acquired, the influence of which must not be overlooked. I refer to habitual feebleness of digestion and inability to properly assimilate fatty substances. This condition manifests itself by spareness of body, easily provoked intestinal indigestion, and an habitual dislike for, or inability to partake of, fatty articles of food. So well recognized is this as a predisposing influence that at least one observer (Dr. Dobell) has promulgated and brilliantly defended an hypothesis of the pathogenesis of pulmonary consumption based upon it. This hypothesis is substantially as follows. In consequence of deficient supply or defective quality of the pancreatic juice, and of the secretion of the liver and the intestinal glands, the food-fats are imperfectly digested. The blood does not supply the fat-elements required for oxidation, does not replace those taken up during interstitial nutrition, but, on the contrary, takes up the interstitial fat to compensate the deficient supply from the food. This having reached a certain point, the fat elements of the albuminoid tissues are seized upon, and these tissues are minutely disintegrated in the process. The result of this disintegration of albuminoid tissue is, Dr. Dobell thinks, true tubercle.

The conditions affecting the lung-tissues that predispose to pulmonary consumption are frequently acquired by the action of influences that tend to depress the bodily forces. It is merely necessary to refer to the familiar facts of grief, prolonged anxiety, the long watching of beloved relatives in fatal illness, imprisonment, and the like, or to those of unfavorable occupations, or to such diseases as measles, whooping-cough, certain forms of pneumonia, diabetes, or to misadventured or too frequent child-bearing, and unduly prolonged lactation. I name these merely to complete the outline of the sketch which you have done me the honor to listen to at such length.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JANUARY 28, 1882.

EDITORIAL.

UNITED STATES PHARMACOPŒIA.

AT the convention in 1880 a good deal was said concerning the slowness of the committee of 1870 in revising the Pharmacopœia. Probably at least the members of the present committee appreciate by this time the labor involved in preparing a new edition of our national standard, and have some inkling why Rome was not built in a day. Almost two years have rolled by since the Washington conference, but even now we are glad to be able to announce that the Pharmacopœia will probably go to press in March, and be out, we suppose, some time this summer. It is fortunate that the convention gave the committee of revision a perpetual existence, since circumstances seem to indicate that the present revision will have to be altered very speedily. The bill before Congress for the prevention of adulterations of food and medicine recognizes the United States Pharmacopœia as the legal standard; and a medicinal preparation which does not agree with its directions cannot be sold under an official name. This will be, if the bill becomes a law, the first legal recognition of our Pharmacopœia, and is undoubtedly a gain in restricting "free trade in medicine;" but it also brings inconveniences. Hitherto the Pharmacopœia has directed processes rather than standards of excellence. It recognizes a laudanum that has been prepared in a certain way, rather than a laudanum which contains a certain percentage of morphia and possesses certain physical properties. It is plain that this will have to be amended. If a preparation represents a certain amount of the drug thoroughly and contains no

impurity or improper ingredient, it should be allowed to pass current. Moreover, the processes of the Pharmacopœia are usually adapted for use on a small scale; and a large manufacturing capitalist can often, by the employment of machinery, etc., obtain equally good results much more cheaply in his own way than by following the Pharmacopœial direction. Suppose Tilden & Co., or any other large firm, puts upon the market an extract of *nux vomica* which contains as large a percentage of alkaloids as does the official preparation, has the government any right to inquire how this extract is made? Or take the case of an alkaloid: if the *strychnia* offered for sale is *strychnia*, has the government any right to know whether it has been prepared from *nux vomica* or by some newly-discovered synthetic process? Plainly not. Policy demands that the lives of citizens shall be protected against impure drugs, but it also demands that every proper stimulus should be given and every proper liberty allowed to the manufacturer who would cheapen and improve processes.

There is another reason why results, not processes, should, whenever possible, be the standard of excellence. Crude drugs vary, and it is possible for a preparation made honestly to be worthless, as it is possible for it to be much stronger than the average: in either case there is uncertainty and evil; but a laudanum or other tincture which is made to contain a fixed percentage of alkaloids is a uniform preparation.

It is stated that Mr. Charles Crocker has given to the California Academy of Science twenty thousand dollars, the income of which is to be used for the furtherance of original research in the far West. It is curious to note how new ideas take root and bear fruit in the virgin soil of the West rather than in the conservative East. Original research is the only way of pushing forward the territory of known

science; the future growth and welfare of civilized peoples depend upon it; and yet, with the hundreds of thousands every year set aside by rich persons in our Eastern States for the purposes of education, rarely is a dime directed towards that which must precede all education,—namely, the discovery of truth.

For the sake of the general profession and the growth of good among us, we are glad that public opinion, second thought, or some other to-be-praised influence has led the editor of the *Medical News* to try to modify, soften down, or explain away the editorial upon free trade in medicine which we had occasion recently to discuss. The method employed of getting one of the editorial staff to write a letter over his own signature as a correspondent, to be commented upon by the editor, is ingenious; but it would probably be found better in the future for the editor-in-chief to supervise closely what some of his subordinate editors write.

We would call attention to the kymograph invented by Dr. Reichert, and described in this number of the *Times*. We have never seen the instrument, but can state that we have never seen, either in this country or in Europe, clearer or more regular tracings than those which have been submitted to us as examples of its work.

LEADING ARTICLES.

COLOR-BLINDNESS.

WHEN we consider the innumerable tones and shades of color* existing between the red and the violet ends of the solar spectrum, in connection with the limited color-spectrum of a normal human

* According to Geissler, a tone of color is the result of the union of two or more pure colors or tones of color, and a shade of color is the result of the addition of different percentages of black and white to any pure color or tone of color. Maxwell defines these two qualities as hue and tint; whilst Hering, who places black and white among the primary colors, considers them identical.

eye, we are forced to the conclusion that every person is, in a certain sense, color-blind. Lockyer† says that Chevreul was able to distinguish and designate fourteen thousand four hundred and twenty different tones of color. Here was a man who, by education, caused his color-seeing organ to recognize such a great number of changes that he is quoted as remarkably acute; and yet we see how low his power of color-perception falls, when we think of the billions of differences that might be perceived. We cannot doubt that there is a limit for color-perception in the human species, when we think of the limits of sensible sound. Helmholtz‡ states that the deepest tone perceptible to the human ear is one of sixteen vibrations to the second; and Turnbull,§ after careful experiment, comes to the conclusion that sixty thousand vibrations per second is the extreme for the most sensitive human ear.

Tyndall says|| “that the squeak of a bat, the sound of a cricket, even the chirrup of the common house-sparrow, are unheard by some people who, for lower sounds, possess a sensitive ear;” and Herschel remarks,¶ “Nothing can be more surprising than to see two persons, neither of them deaf, the one complaining of the penetrating shrillness of a sound, while the other maintains there is no sound at all.” The human ear, as it now exists, is unable to differentiate every grade of sensation within the notes of lowest and highest pitch; and every person (to use an imperfect term comparable with color-blindness) is suffering, more or less, from sound-deafness.

We must not confound with true color-blindness** an inability to recognize delicate differences of color, which is simply the result of the lack of color-education. In looking over the various statistics, we are struck with the vast majority of the

† “The Forces of Nature.” Translated from the French of Amédée Guillemin, by Mrs. Norman Lockyer, 1873, p. 322.

‡ Tyndall “On Sound,” 1869, 2d ed., p. 72.

§ “Experiments to determine the Limit of Perception of Musical Tones by the Human Ear.” By Laurence Turnbull, M.D. Abstract from a reading before the American Association for the Advancement of Science, August, 1874.

|| Tyndall “On Sound,” 1869, 2d ed., p. 73.

¶ *Ibid.*

** This definition is based on the assumption that the human color-seeing organ, as it now exists, is for two reasons incapable of perceiving every spectral color. 1st, On account of physical inability caused by the want of, or the incapability of, certain elements to be acted upon; and, 2d, through deficient functional activity, dependent upon lack of training and want of education:—the former a true or physical color-blindness,—orthochromatopsie; the latter a false or physiological color-blindness,—pseudoachromatopsie; the former incurable in individual cases, the latter capable of amelioration.

male color-blind, which brings us to the thought, Why? The organ of color-seeing is the same, and possesses the same character of functional activity, whether it be placed in woman or in man. Of what significance to the eye is a difference of sex? How can a difference in a system of generative organs affect an independent factor? Girls can and will sort and differentiate colored wools more accurately, as long as the female lines of generation shall live among color, and the male sex cannot possibly expect to reach their system of minute grading and shading until the choice and selection of color shall become a daily routine.* A series of healthy eyes will give far different results in direct proportion as they have been reared among colors. We all understand, and give perfect credence to the assertion, that a trained musician has by experience enabled himself to enjoy musical sounds which are wholly ignored or unheeded by a less trained auditory apparatus. Thus education and training bring into sensible activity elements of color-seeing and sound-hearing that have remained dormant and unused,—a lifting from false color-blindness. To assert that a person whose eyes are not trained to detect delicate differences of color is physically color-blind would be as foolish as to declare that an uneducated and unused muscle is incapable of proper action if correct stimulus be applied.

It is useless to argue that the prevalence of color-blindness was not greater among the ancients than it is at the present time. Pliny, in speaking of the paintings of Apelles, who flourished about three hundred years before Christ, says† “that all these wonderful paintings, which were the admiration of all mankind, were painted only with the four primitive colors;” and Cicero, in one of his books *De Oratore*, makes Crassus, in a conversation upon the comparative beauty of ancient and modern painting, say, “Let us, for instance, consider our modern paintings. Can anything be more splendid and lively? What beauty, what variety of colors! How superior are they in this point to those of the ancients!” and Dionysius Halicarnassensis, who flour-

ished about the time of Augustus, remarks‡ that “the ancients were great designers, and understood perfectly all the grace and fervor of expression, though their coloring was simple and little various. But the modern painters, who excel in coloring and shades, are vastly far from designing so well,” etc. The belief that we possess a finer color-sense and a larger and more complex color-spectrum than the ancients may also be deduced from the rule that the use of an organ must render it stronger in its power and more extended in its action; and if this be carried from generation to generation, *physical alteration must occur*. Dr. Erasmus Darwin, in his beautiful little poem “The Temple of Nature,” says,§ “Perhaps all the productions of nature are in their progress to greater perfection.” The converse action of use teaches us the same truth. Charles Darwin gives|| numerous examples in the blind animals found in the blackest recesses of the Styrian and Kentucky caves, such as rats, beetles, fish, serpents,—even crabs possessing eyeless foot-stalks, “stands for the telescope, though the telescope with its glasses has been lost.”

It is not presumptuous to assert that there will be a time when the color-seeing power of the human species will far exceed anything dreamt of at present; but shall the eye ever become a perfect organ for color-vision? Will there not be something more for it to conquer? A search for the unobtainable!

True color-blindness is nothing more or less than the want of, or the incapability of, certain color-perceiving centres or fibres to respond to the correct application of proper stimulus.

If the assumption be true that all in the human species have a certain percentage of color-blindness dependent upon the variation from a standard of seven pure colors with a certain unknown quantity of tones and shades, it remains only to find those cases in which the defect becomes so great as to assume the character of disease. The moment we find a color-seeing organ incapable of recognizing one or more of these seven colors, and, as a consequence, a certain amount of tones and shades, we must place it on the pathologi-

* This is well exemplified by the ability of the male operatives of a well-known dental depot in this city to tell, at a moment's glance, the number of a tint of enamel in a set of artificial teeth, from more than fifty varieties.

† Rollin's “Arts and Sciences of the Ancients,” Eng. trans., 1737, vol. i. p. 241.

‡ Rollin, *op. cit.*

§ “The Temple of Nature, or the Origin of Society,” by Erasmus Darwin, M.D., etc., 1804, p. 47 (in foot-note).

|| “On the Origin of Species,” by Charles Darwin, 1860, pp. 125, 126.

cal side of the question. We have thus reached the usual signification of the popular definition of color-blindness.

The naming of the varieties of color-blindness depends entirely upon whether we designate a color-blind by the colors he sees, or by those which are invisible to him. For instance, Mauthner bases his division upon the colors seen, and obtains the following terms: xanthokyanopie (yellow-blue seeing), and erythrochloropie (red-green seeing).* Szokalski makes five groups on the same plan. Wilson, Rose, Holmgren, and others obtain their systems from the imperceptible colors or color. The best selection of terms is—1st, total color-blindness, "achromatopsie," where nothing but the black-white group, with its innumerable grays, is present;† 2d, partial color-blindness, which may be divided into red-blindness, "anerythroptopsie," green-blindness, "achloropsie," and violet- (blue-yellow-) blindness, "akyanopsie," "axanthopsie."‡

Magnus relates§ an exceedingly interesting case of a totally color-blind school-teacher, who compared her color-spectrum with a very finely executed lead-pencil shading growing darker from the natrium line|| towards the unshortened end in such delicate gradations that the different gray wools were not sufficient to represent them.

The case of the green-blind painter reported by Hirschberg¶ is very instructive. The red-orange-yellow and the violet-indigo-blue parts of his color-spectrum were perfectly normal, having between them a gray zone exactly corresponding to spectral green.

Many instances might be cited of red and red-green color-blindness; but space will not permit.**

Holmgren's monocular blue-yellow color-blind†† is worthy of mention, by reason of there being a neutral, colorless, narrow

zone in green-yellow, which separated the red from the green half of his color-spectrum, the patient calling this zone paper-white.

Some curious cases of monochromatic color-blindness have been reported elsewhere.‡‡

We are now brought to the interesting fact that independent of the congenital and hereditary anomaly we have a variety designated as acquired color-blindness, produced by pathological change during the progress of many diseases of the nervous system. Here, color-perception may be gradually or suddenly lost, with or without decreased visual acuity. Schirmer gives§§ some important notes of gradual failure of both central and peripheral color-perception, with their order of progression. Beginning with green, red is next lost, then yellow, and lastly blue.||||

Sudden loss of color-sensation is comparatively rare. Tyndall cites¶¶ a case of a sea-captain who, one evening whilst embrodering, suddenly found that he was unable to distinguish red from green; the infirmity remained permanent.

The occurrence of congenital defects of other sensory organs with color-blindness is very infrequent, there being an almost unique instance in Jeffries's case*** of a celebrated poet, who, besides being unable to distinguish many colors, is almost entirely incapable of differentiating musical sounds; and yet how curious, as Jeffries states, "the kaleidoscope of nature and the harmonicon of art are the Utopias of his mind. The magic hues developed by the prism, the iridescence of shells and minerals, the inimitable colors of the beasts and birds of tropical climates, the verdure of the fields of spring, the splendor of the autumnal foliage of the forests, the myriad hues of flowers, . . . all these, it would appear, are comparatively 'as a sealed book' to him. Yet from his writings no evidence of this can be detected."

It would be of but little value to make inquiry into the merits of the various methods of determination. Merely naming a few,

* Vorträge der Augenheilkunde, von Dr. Ludwig Mauthner, 1879, 4 Hft, S. 179 (Farbensinn).

† Compare Hering's theory in previous article.

‡ We should be careful not to confound the term difficult color-vision, "dyschromatopsie," with the terms used in color-blindness, as we so often see in the many text-books and monographs written upon the subject.

§ Centralblatt f. Prakt. Aug., 1880, December, p. 373 (Ein Fall von angeborener totaler Farbenblindheit).

|| A very sharply defined yellow line in yellow. See Morton and Leeds's Practical Chemistry, 1866, p. 55, and plate facing p. 123.

¶ Arch. f. Anat. u. Physiol., 1878 (Physiol. Abth.), 3, 4, S. 324-332 (quoted in Schmidt's Jahrb., Bd. 191, S. 100).

** See Dalton's case, Edin. Jour. of Sci., No. ix. (Art. x.) p. 88, from Memoirs of the Literary and Philosophical Society of Manchester, 1798, vol. v.

†† Quoted in Schmidt's Jahrbücher, 1881, Nr. 7, S. 98.

‡‡ Dr. M. Woinow, Arch. f. Ophth., 1871, xvii. 2, S. 246. Dr. Otto Becker, idem, 1879, xxv. 2, S. 205. Dr. A. v. Hippel, idem, 1880, xxvi. 2, S. 176.

§§ Dr. Rud. Schirmer, Arch. für Ophth., 1873, xix. 2, S. 194-235.

|||| This order of progressive loss cannot be accepted as absolute, there being many exceptions.

¶¶ Tyndall, "The American Journal of Science and Arts," vol. xxii. 2d series, 1856, July, pp. 143-146.

*** Color-Blindness: its Dangers and its Detection. By B. Joy Jeffries, 1879, p. 105.

such as Mauthner's series of colored powders enclosed in vials, the pseudoisochromatic wools of Donders, Stilling's color-plates and colored shadows, the color-triangle of Lips, Pfüger's color-book based upon simultaneous complementary color, Hirschberg's double spectroscope, and the polariscope of Rose, we pass to the series of wools proposed by Holmgren,* a plan by which a subject having a certain test-skein placed before him sorts and places all similar skeins with it, it not being necessary to designate any color.

Common sense teaches us to accept the conclusion that the congenital form of true color-blindness is incurable. The question now comes forward, can the world be so modified by the interposition of certain media (as in errors of refraction) as to give to the abnormal eye the proper impression of color? Repeated experiment by intelligent color-blinds, with colored solutions, such as nickel chloride and fuch-sine enclosed in glass, show very little, if any, gain.

Of course, in acquired color-blindness, color-perception is decreased (passing through the stage of lowered color-sense) in exact proportion as nervous power is lost. It stands to reason that if here there be a normal material ready to be acted upon and respond when proper stimulus is brought to bear upon it, color-perception can be, and is often, regained.

CHARLES A. OLIVER.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the College of Physicians, Philadelphia, November 9, 1881, Dr. Albert H. Smith, President, in the chair. Dr. Oscar H. Allis read a paper entitled "Can Pott's Disease of the Spine be Cured in Childhood without Subsequent Deformity?" (see p. 273), and Dr. James C. Wilson on "What Constitutes a Predisposition to Pulmonary Phthisis?" (See page 277.)

DISCUSSION ON POTT'S DISEASE.

Dr. De Forest Willard said, "It is evident, both from theory and experience, that if we have disease of the vertebral bodies—and if

we have no disease of the bones it is not, properly speaking, a case of Pott's disease—there is no way in which the patient can be cured without the sinking of the bones and ankylosis. I can see no other mode by which a cure can be obtained; and, in truth, I have never seen a case in the practice of any one in which a favorable result has occurred without more or less deformity. If the caries is arrested early and the amount of destruction slight, the amount of resulting deformity may be small; but if several vertebræ are broken down, they cannot be replaced, and we can only hope for ankylosis with as little distortion as possible. There is not only deformity, but rigidity of the spine necessarily. This can always be observed when the patient stoops, though eventually the stiffness of this portion of the spine is in a measure compensated by the rest of the back becoming more movable. It follows also that there is always a slight projection of the spinous processes of the diseased vertebræ; although this may not be very marked. I cannot see how it is possible for anybody to cure a case of Pott's disease of the spine without deformity, though it may be slight."

Dr. Henry H. Smith coincided very fully in the opinion given by the lecturer with regard to the impossibility of cure of this disease without deformity. The question is an old one, and many members present had seen specimens in the lecture-room demonstrating the fact that the supposed cures were deceptive. The explanation of their reported cures is very simple: the surgeon takes the outline of the spinal column at the commencement of treatment; subsequently by the use of fixed dressings the shoulders are forced back, and the outline of the back appears to be straighter, but the spinal column remains as crooked as before. He wished to add the expression of his own opinion to that of the lecturer, that *there never was a case of caries of the spine cured without deformity*, and he defied any man to present a specimen before this Society showing the diseased bone healed without approximation of the bodies of the vertebræ and caving-in of the column.

Like the lecturer, he had felt the inconvenience of being too candid. Having told the friends of a little patient that a cure would not be obtained without some deformity, he had seen the case go into the hands of other surgeons, who promised better results, but after-events had shown that deformity occurred, nevertheless. This conduct he denounced as a form of quackery in the profession; he had fought this question for years. He had repeatedly demonstrated that it is practically impossible to have a cure without approximation of the adjoining vertebræ,—a result which would be favored by the weight of the viscera and superior extremities inducing flexion of the spine. Without entering into the mechanism, however, he would state

* Skeins of colored wool first made use of by George Wilson in 1855.

that all the cases presented before various large assemblies of the profession as cured had been of the character he had just mentioned, in which the attendant has been deceived. Patients may be hung, and twisted, or purged, but they cannot be cured of Pott's disease without deformity, when once developed.

In reply to a question, he said that the disease is undoubtedly tuberculous, but patients do not necessarily die of pulmonary phthisis; a case may live to be sixty years of age, or older, without developing lung-disease. The disease was well described by Pott, but he unfortunately characterized it as "paralysis of the legs," which was only one of the prominent features. Patients may certainly recover and live to old age without further manifestation of tubercles, but some prominence will always be present in the back.

DISCUSSION UPON HEREDITARY PREDISPOSITION TO PHTHISIS.

Dr. H. C. Wood said that where change of climate does good in phthisis, it benefits not so much by curing the predisposition to the disease, as by correcting the exciting causes of the malady. One other point deserves consideration,—individuals are born with a certain amount of vital power, and they perish at a certain period, because they have lived out the cycle of their vitality. This is true not only of race but of families. Some families perish early, in others longevity is marked. Now, what is true of the general system is also true of a part. An individual may be born with a general system calculated to live to eighty years, but the vital power of certain organs is exhausted earlier. The question of continued existence then settles down to the vital resisting power to destructive agencies. This sometimes applies to the organism as a whole, and again to the organs individually.

Dr. George Hamilton, in corroboration of the remarks of the preceding speaker, gave an instance of long-lived parents who had a number of children to perish at early maturity with consumption. He could only account for it on the score of inherited predisposition. The family lived in the country, and when it came under his observation it consisted of three persons,—the father, about eighty, the mother, nearly as old, both very healthy, and a son of twenty years. Six children had perished between the ages of fifteen and twenty, from consumption. A sister of the mother, then apparently healthy, a year later had decided evidences of phthisis. Another sister, who was subject to sore throat, died later on, and also her daughter, both with the same disease. Finally the mother of the family died, at the age of eighty-three years, of consumption. The speaker afterwards learned that her brother, although robust at forty-five years,

had suffered from hemorrhages from the lungs when a young man.

In another family, of seven sisters and one brother, five of these sisters died of consumption when young. One of the other two sisters and the brother died of other complaints at an advanced age. The remaining sister—the eldest of the family—died of acute disease in her ninety-third year, and had given birth to eleven children, not one of them affected with phthisis.

Dr. J. T. Eskridge agreed with the views expressed upon the hereditary predisposition to phthisis. Out of one hundred cases coming under his observation, there were forty-four who had lost both parents with the disease, seven had lost one parent, in six cases other members of the family had died of consumption, making fifty-seven per cent. with a direct family history. Of the remainder, fourteen had acquired the disease. In nineteen there was a good family history. In ten the antecedents were uncertain. In seven the husband or the wife was originally affected.

He agreed also with Dr. Wood that certain families are long-lived, but it is equally certain that the members may be prematurely cut off by acute disease. In the same way certain organs may be weak and fail early, but by recognizing this vulnerability may be preserved, by proper treatment, for many years. With regard to the asserted dislike for fatty articles of diet, he had found that seventy-five per cent. of consumptives did not exhibit this peculiarity.

Dr. F. Woodbury said that while he endorsed fully the views expressed by the lecturer, at the same time he would beg to say that there existed in his own mind a decided distinction between influences which predispose to phthisis and the predisposition itself, and a definition of one does not necessarily include the other. He would concede that some children are born with a vice of constitution which renders them peculiarly susceptible to the development of tuberculosis at certain periods of life, but he believed that no fact in modern pathology is more generally acknowledged than that this vice of constitution may also be acquired by persons who have no such inherited tendency. The observations of Prof. Bowditch, for instance, have shown the relationship of a damp soil to the prevalence of consumption, and it is well known that of the natives of the south of Europe, particularly the Latin races, the families, after immigrating to this country, are particularly liable to die out in one or two generations with phthisis. Alcoholism, dissipation, and anything tending to reduce the system much below the normal standard, and especially chronic inflammatory pulmonary affections, will also produce phthisis in persons who have not especially consumptive antecedents. Recent experiments also appear to establish the fact that this disease can be

communicated to healthy animals by inhalation of pulverized caseous products. Therefore, the old dictum that phthisis occurs only in certain persons possessing the inherited predisposition must be abandoned, as Niemeyer taught years ago. In conclusion, the use of the term "predisposition," as applied before the existence of any disorder, seemed to him to be open to criticism; a susceptibility to disease certainly is compatible with physiological health, but in a strictly normal organism no specific tendency to disease can exist. Such a decided tendency as is implied by a predisposition to phthisis appeared to the speaker to indicate a morbid state in actual existence, and therefore really applicable only to some of the early prodromata of the disease.

Dr. J. Solis Cohen, responding to a question, said that he had seen the statement made that the Jewish race was not subject to tubercle; but he had not made the subject a special study; he could only say that in his own practice he had found no such exemption. If the race possesses superior longevity, it may be attributed partly to the careful observance of hygiene.

In confirmation of Dr. Wood's remarks he said that he had long been impressed with the belief that individuals are born with a certain amount of vitality which enabled them to live a certain term which could not be extended by any treatment, though it could be diminished by many causes. Here, he believed, lay one solution of the greater recuperative powers of children; and as but one example among a number of this limit of viability he would instance a family in which the children all perished with phthisis upon reaching a certain age, the parents surviving as healthy individuals. His own observation was that it is not necessary for the patients to suffer from phthisis themselves in order to transmit this vulnerability to their offspring, but they may suffer from any disorder which reduces their vitality, such as prolonged anxiety or imperfect nutrition; other causes are equally potent. Another point was suggested in connection with the subject of the preceding paper. In some families all the children except one may die of tuberculous disease of the lungs or brain, while the survivor ultimately has caries of the spine. It is possible here that the vertebræ may be more vulnerable than the lungs.

He had long been impressed with the idea that the lungs suffer to so great an extent because of their peculiar structure, and because they are exposed to such marked atmospheric changes. Upon an examination of the mortuary records he had found that more than one-fourth of all the deaths of adults in Philadelphia were from consumption of the lungs, and deducting the sudden deaths it would rise to fully one-third.

His experience is that the disease is much less frequently inherited than acquired. The

predisposition to phthisis is simply anything that reduces the strength of the constitution. Individual vitality has much to do with the development of the disease. Frequent miscarriages among females, and the want of sunlight, especially among the operatives in factories, are also predisposing causes.

Dr. M. S. French remarked that under his own observation and that of another, a physician of large experience, there had never occurred a case of phthisis in an individual with a bald head.

Dr. William S. Stewart called attention to the communication of phthisis by the milk from tuberculous cows, and he also referred to the prevalence of tubercles in the lungs among the swine fed on slops near our large cities, whose meat is constantly consumed by the community. He thought that such food would favor the development of human tuberculosis: diseased milk certainly has a direct influence upon infant mortality.

Dr. R. A. Cleemann, in reply to Dr. Eskridge's statements in regard to the transmission of phthisis by family inheritance, said that the prevalence of the disease must be borne in mind: on account of the large numbers affected, nearly every one must have some relative who had perished with consumption. In old families, especially where consanguineous marriages are encouraged, by breeding in and in, as the farmers say, the development of phthisis is encouraged. While it cannot be denied that there is some inherited liability, the tendency is not so great as is laid down by some writers.

Dr. J. C. Wilson, in conclusion, said that he had noticed the tendency in some families for the children to perish at an early age with consumption, especially the tubercular form, and instanced a family in which a tuberculous mother lost two children with consumption at the age of seventeen years, and a third one is now affected. The father also perished from the same disease. Consumption of the lungs does not increase in settled communities so much as might otherwise be expected, because the children who show the highest degree of predisposition to phthisis perish early, not always from disease of the lungs, but often from tubercular disease of the intestines or meningitis. They, therefore, do not reach the age to transmit the peculiarity. The increase of the disease is prevented by the vulnerability of the children predisposed to it.

With regard to the distaste for fatty articles he reasserted his conviction in the truth of the observation of the older writers. Since reading Horace Dobell's interesting speculations upon the cause of phthisis he had asked his patients, "Do you cut off the fat from the meat at the table?" and they almost invariably replied that they did, and rejected the fat.

With regard to the nature and communicability of tubercle he did not speak, as they

were foreign to the subject of his paper, but would simply state that whatever may be the exciting product which leads to tubercle in the individual, it may also pass out of the body in the organic matter of the expired air, and become the direct cause of tuberculosis in a second individual. As to the diseased milk and flesh, he believed that the same peculiar material may be transmitted in food, and become a source of infection in man, by passing from the stomach into the blood without digestion.

A METALLIC TAMPON.

Dr. Samuel R. Skillern exhibited a dome-shaped metallic tampon, which applied to the ostium vaginæ prevented the escape of fluids. It should be secured with a T-bandage. He obtained the idea from the shield of an old-fashioned metallic vaginal syringe: he had used it very successfully for a number of years, and considered it as superior to all other methods of checking hemorrhage.

Dr. H. H. Smith said that he had seen a similar instrument in use thirty years ago, in the hands of the late Dr. Beasley.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held January 5, 1882, Dr. FORDYCE BARKER, President, in the chair.

The paper for the evening, entitled "The Treatment of Diseases of the Middle Ear and Contiguous Parts by Milder Measures than those commonly in Vogue," was read by SAMUEL SEXTON, M.D.

Before proceeding to consider the subject of treatment, the author spoke of the etiology, symptoms, and diagnosis.

The cases of suppurative disease of the ear might be conveniently arranged etiologically under three heads,—viz.: first, those arising from nervous symptoms; second, from extension of catarrhal inflammation from the nasal pharynx to the Eustachian tube; and third, mechanical or direct causes.

Speaking of diseases of the ear arising from nervous symptoms, the author said, "I have thus seen many cases where the etiology could readily be traced to painful conditions of the uterus and ovaries." The ear was left sometimes subject to an attack of an acute nature from the effect of wetting the hair of the head and allowing it to slowly dry, from clipping the hair too closely, and very frequently from exposure of the head and neck to draughts of cool or cold air. Hereditary influences were referred to, and also age and sex. In his experience it occurred more frequently in males during adult life, and among females during childhood.

With regard to the parts affected, the diseases of the ear might again be divided into—first, catarrhal inflammation of the air-cells of

the mastoid; second, periostitis of the external auditory canal; third, periostitis externa.

With regard to treatment, certain measures were too frequently resorted to, both by the laity and the profession, under the idea that they would do no harm, and many cases which under milder measures would have received the greatest benefit were thus rendered worse, or the disease protracted. The author, in this connection, referred to the common practice of syringing the ear, of poulticing, of plugging, of astringents, and of inflation with air.

In starting out some years ago to endeavor to manage these cases by milder methods, he found his greatest encouragement come from an unexpected source, namely, neglect on the part of patients to carry out the plan of treatment which he had thought best to recommend. The case which impressed him most strongly with regard to the propriety of milder measures was that of a patient suffering from a large and painful swelling over the mastoid process, who refused to have an operation done for cutting down upon the bone. Dreading pain, the patient absented himself for several weeks, during which time he continued the use of calcium sulphide, which had been prescribed; and when he came back, much to Dr. Sexton's surprise, his condition had greatly improved, and the pain and swelling over the mastoid process disappeared without an operation. This and other reasons led him to the supposition that certain of the established methods of treatment in aural disease might be dispensed with.

It would be disputed by none that absolute rest was indicated in the early stage of acute inflammation of the middle ear, but the author would supplement this with the injunction to maintain rest of the ear itself. In other words, the inflamed organ should be but little disturbed by local applications and manipulations. If the patient was seen before a discharge from the ear had commenced, the drum-head should be carefully inspected through the speculum by the aid of light reflected from the head-mirror, and if found inflamed, but not greatly bulged out by pressure of secretion, it should not be subjected to any local treatment whatever; but if there were thickening and great distention, the question of paracentesis would present itself. The author, however, always gave the patient the benefit of the doubt if any existed, and postponed the operation. Paracentesis was not always easy of performance even in the adult; and in the young and weak, anæsthesia was required. When the condition of the teeth, of the naso-pharyngeal mucous membrane, of the uterus, etc., had an influence upon the aural affection, diseases of these organs should be remedied. Later on, when muco-purulent material was retained in the auditory canal, decomposition might take place in warm weather, and gentle syringing with warm water might be required. Certain

of the more simple and uncomplicated cases would be cured within a short time,—a few weeks, or even a few days; but many would require constitutional measures. The necessity for observance of the hygienic laws in this disease is well known to every practitioner.

Some years ago, in a case of furuncles of the ear, the author employed the sulphide of lime with satisfactory results, and subsequent experience had demonstrated its value in most acute inflammations of the middle ear and contiguous parts. In a somewhat extensive experience he had found the sulphide of calcium to exert a more favorable influence over acute aural inflammations than he had hitherto obtained by any other treatment, this drug seeming to possess the power to stop the inflammation. Its therapeutical action he could not explain.

With regard to the special indications for the employment of the sulphide of calcium, he would say that whenever acute inflammation, with or without suppuration, existed, he would recommend it. Its continuance and the length of time during which it should be employed must depend upon the indications in each individual case. He gave it in one-half grain doses, repeated every three or four hours, and seldom found it necessary to increase the amount. A smaller dose was sometimes preferable, especially in children. The effect of this drug was often to dispense with the use of the knife or leeches about the ear.

Local pain, sometimes only occasional and of a darting character, might fail to be relieved even by large doses of opium, and the author did not believe in placing the whole system under the influence of profound narcotics, which were known to interfere with nutrition when largely employed, for the purpose of relieving a local symptom, until less baneful remedies had been tried. He referred to pulsatilla, aconite, and gelsemium; sometimes one, sometimes the other of these, given in small doses every few minutes or few hours, would be found useful.

Trephining the mastoid was by no means as harmless an operation as its ease of performance would indicate, and it sometimes led to a fatal result. Moreover, pain, which was supposed in such cases to indicate danger of the brain becoming implicated by the disease, and therefore called for the operation of trephining, was not by any means pathognomonic of danger to the brain. While he would not discard this operation altogether, he believed that it had been performed needlessly in many instances. It was stated by most authorities that the operation was followed by relief from the urgent brain-symptoms, together with relief from pain, a point which Dr. Sexton could not understand the philosophy of, and was disposed to doubt as a clinical fact. The author then related the circumstances under which he would think it proper to do trephining and to remove seques-

tra of bone, and again alluded to the efficacy of calcium sulphide in the constitutional treatment, especially in persons of a certain dyscrasia, as scrofula.

DISCUSSION.

The paper being before the Academy for discussion, Dr. BURNETT, of Philadelphia, by invitation, spoke as follows: I desire to thank the Society for the privilege of listening to this paper; and although I came to listen, not to speak, I may say that as far as my experience goes I can endorse all that the author of the paper has said. With respect to some points, however, I have had no experience. The author alluded to the fact that there are a great many neuralgic affections of the ear which are mistaken for inflammation of that organ. Unfortunately, I have seen a large number of these cases in which the neuralgic disease has been mistaken for an inflammatory one and has been treated as such, and when the surgeon has finally come to view the disease in its true light he has found, if I may use the term, an artificial disease which he has set up by improper treatment. These are, perhaps, among the most important diseases that any of us meet with, because a great deal of damage is really done by surgical or medical interference. Patients themselves, I know, often treat these diseases as inflammatory, and a long time might be taken up by a mere recital of the peculiar way in which the disease has been mistaken and wrongly treated.

With regard to disease of the mastoid portion, there is an infinite amount to be said, as suggested by the essayist of the evening. I have been obliged by various circumstances to view the natural history of some cases of mastoid disease, and I have learned thereby a great deal.

Dr. Burnett then related a case of mastoid disease, the patient refusing an operation which had been suggested, and yet the disease went on to recovery. He also related another case of mastoid disease in which, owing to the mis-carriage of a message, a proposed operation was not done, and the patient recovered. In a case of severe traumatic injury to the ear, after which the patient lost for a time his reasoning power, a sequestrum of bone, evidently composed of mastoid cells and a portion of the posterior wall of the auditory canal, was removed, and the patient recovered almost his perfect hearing.

His experience with the sulphide of calcium in the treatment of inflammatory diseases of the ear limited itself to a single case, which he saw in consultation. The patient was a young man, strong and hearty, and was suffering from furuncles of the ear. His physician had tried about every remedy known, but without success. I recommended the cessation of local treatment, and suggested the sulphide of calcium. He recovered without hav-

ing any more furuncles, although, as you all know, the tendency of this disease is to recur in crops. I believe, however, from the experience given by the essayist, that it is a valuable remedy as a resolvent, if I may so use the term. I would ask Dr. Sexton whether he would limit the use of this drug to cases in which the patient is strong and of full habit, or whether it may be given to any class of persons.

Dr. ROOSA.—Mr. President and gentlemen: The essayist has been very frank in his paper, and I propose to be very frank in the few remarks that I shall make in reply. With regard to that portion of his paper which treats of the etiology of aural disease, I have very little to say. We are all tolerably familiar with the accepted etiology, and there would be no difference with the distinguished speaker except, perhaps, that he lays more stress on what he calls reflex nervous influences than most authors do or have done. With regard to that portion of his paper in which he speaks of the treatment of necrosis and the removal of granulations, I have nothing to say except in the way of commending it to all for a sound surgical trial.

But with regard to all the rest of his paper—with regard to the sulphide of calcium; with regard to pulsatilla; with regard to the abstaining from surgical interference—I am so decidedly at variance with the author that I am embarrassed in announcing my opinions. If the gentleman, formerly President of this Academy, who has left the room, were here, I should ask him to get up instead of getting up myself. It was he who taught me the surgical principle that free vent should be given to concealed pus; that swollen and inflamed muscular and connective tissue and perosteum beneath it should be incised; and I have criticised, as a pupil may, his teachings, but I find my own experience quite different from that of the speaker, that those principles are correct to this day.

I cannot verify the experience of the gentleman who has spoken with regard to sulphide of calcium. I have tried that drug in furunculous inflammations of the external auditory canal, I have tried it in diffuse inflammation of the external auditory canal, and I have never known it, in my own experience, to have any effect whatever. I have never dared to try it in acute inflammation of the tympanic cavity. This question becomes one so largely of personal experience that it is difficult to speak intelligently upon it; one man sees what another man fails to see; but I will endeavor to formulate in a very brief manner the principles that I still adhere to, which I have announced in as public a way as it is possible for a man to do, and which, I believe, have not yet been overthrown.

Given a red membrum tympani, and given at the same time serious pain referred to the ear,—and by serious I mean that which

will keep the patient from sleep and cause him to shriek with agony.—I do not believe that, if it be not remedied by the warm douche speedily,—as it often is,—there is, as yet, any other remedy to be compared in any manner to leeches; and I think the notion that a leech-wound, or attempts to stop it, cause such serious symptoms that they ought to deter us from using it, will not be verified by most observers.

I believe, also, that if the drum-head be bulging, and at the same time there be considerable pain, it is much safer, although many people get well without it, to incise the drum-head.

My notions with regard to mastoid inflammation correspond with those of the profession generally, so far as I understand them. I admit fully that there is a kind of mastoid inflammation that ought never to be incised. The President of this Academy once quieted my fears about a case of phlegmon of the mastoid process, and by his good advice caused me to wait a little while before incising it, and it got well spontaneously with evacuation of pus through the auditory canal; but that class of cases is easily distinguished from cases of periostitis, external or internal. I will not go over the principles to which I still adhere, and which are familiar to some of you, at least. I am very far from any thought that every case of aural disease is to be attacked with leeches and the knife, but I simply believe, and I have endeavored to state modestly, Mr. President, that there are cases in which local antiphlogistics and the knife are absolutely necessary, and I also state that cases have passed out from under the influence of those who treated them with sulphide of calcium and had to come to the knife after all. Now, I find great similarity in the treatment of my friend to the methods advocated by the Homœopathic Otological Society of this country. There is no reflection, of course, in that assertion, but these are principles of homœopathy. They may be correct, and we may be wrong; but they represent the kind of treatment that I read of in the transactions of my friends of that Society—for some of them are my friends. I cannot, as yet, see that the principles of surgery have been turned upside down, as it would seem to me they had been if we assert, as I understand the author asserted with respect to his own experience, that we do not now see any cases which require leeches or which require the knife.

I regret that the necessary want of preparation to reply to such a paper makes me unable to meet, as successfully as I think they could be met, certain positions which the author has taken; but I shall take, with your permission, Mr. President, an opportunity some time to controvert what I believe to be considered by most eminent and honorable scientists the most dangerous doctrines.

Dr. POMEROY.—I feel embarrassed in getting up to speak, since Dr. Roosa has said about all that I should have done. I think my opinions are almost identical with his. I think almost directly opposite to my friend who has read the paper concerning treatment, and I feel it a solemn duty to express my thoughts in defence of principles which relate to the saving of life and the happiness of our patients. I cannot speak too strongly in combating propositions which undertake, it seems to me, to overthrow well-established principles of surgery,—to wit, the opening of an abscess, the use of morphine to relieve pain dependent upon inflammation, the unloading of blood-vessels that are too full, etc. I must say that my faith in these principles has not been in the least disturbed. The author, I understand, considers the application of leeches a violent measure. Now, the American otologist does not put six, eight, or ten leeches to the ear and exsanguinate the patient. One leech is often sufficient, and when two or three are used no general systemic effect is produced whatever. With regard to pain and irritation, there is no instrument in the world which will produce a painless cut if the mouth of the leech will not. The author, however, has made a good point, which I myself have experienced,—namely, that in bungling efforts to stop the leech-bite you may bring on pain in the ear after it has been stopped by the leech. To avoid this, I apply the leech myself, instead of employing a professional leecher to do it. After giving the indications in hyperæmia, etc., for the application of leeches, Dr. Pomeroy stated that he himself had had otitis, which had been relieved by leeches too often to speak otherwise than in favor of their use in proper cases.

While harm might be done in syringing out the ear, he thought it might usually be avoided, and much good might be done by this procedure in many cases. The dangers would be lessened by adding a little salt to the water. With regard to inflation, he gave certain rules which guided him in its use. He used it frequently, and whenever it was necessary to keep the hearing up to the highest point; but it should not be done oftener than could be helped, as it might do harm.

He was glad to be able to coincide with what the author had said regarding cutting down upon the mastoid. He did not think he could be accused of being tender-hearted, but when he cut along upon the bone a distance of half an inch or so, the patient shrieking with agony, he felt that he was a cruel man; and he had not done it for over a year, finding relief of mastoid swelling and other symptoms by the application of leeches instead.

With regard to paracentesis, he considered the rules laid down by Dr. Roosa impregnable. He did not find it necessary to use anæsthetics in this operation, except in chil-

dren. He could not understand how an aural surgeon of considerable experience could get along in his practice for several years without the necessity for using leeches in a single case. The author spoke of having acute cases of inflammation relapse frequently. Dr. Pomeroy was in the habit of continuing the application of the leech as long as there remained a dull, aching pain, or even a feeling of heaviness or weight in the ear. He had never used the sulphide of calcium, but did not believe that the drug was capable of performing such miracles as seemed to be ascribed to it. His assistant had used it extensively, and had found it "utterly of no utter use."

Dr. WEBSTER said that he had seen many very bad cases of disease of the ear which had commenced with acute inflammation of the middle portion, and which might have been relieved by commonly-recognized methods, but which, either with or without advice from a physician, the friends of the patient had treated by the let-alone plan. He had no experience with pulsatilla and calcium sulphide, but he would want personally to see some cases treated successfully by those means before he would be willing to discard the warm douche, leeches, and, if necessary to relieve pain, opium.

Dr. SEXTON, in closing the discussion, said that in reply to Dr. Burnett's question with respect to the administration of calcium sulphide, he would say that age, habit, and so on, did make a difference; but the remedy could be used with safety and advantage in any case if properly administered.

With regard to the remarks of the gentleman following him, he was not at all surprised that Dr. Roosa was surprised at what he had read. He expected there would be some surprise expressed at these measures, but no one was more surprised than he himself when he made up his mind that we were prone to operate about the ear too much,—that we were not disposed to let it alone enough. He almost thought, sometimes, that we had better go back to the time when the ear was let alone. Since otologists had been teaching the profession that the drum-head must be perforated, the mastoid must be trephined, incisions must be made right and left, and leeches applied, the thing was coming to be overdone: we had gone too far, and it was well we should take a pause in these directions. The fact that some patients accidentally escaped these measures and did well was what led him to his present views, and he did not now find it necessary to use the knife or to apply leeches, although he did not mean to say that leeches should never be applied. He did not believe that he was more likely to allow his patients to suffer from want of proper remedial aid than were other aural surgeons. He was surprised at his colleague for comparing these means to the rules of the

homœopaths. If he understood the meaning of homœopathy, he failed to see the connection. Calcium sulphide was not a homœopathic remedy, neither was aconite or gelsemium. They were remedies which were used by every physician in various diseases according to the circumstances of the case. With regard to other points in the discussion, his views were expressed in the paper.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

STATED MEETING, JANUARY 5, 1882.

The President, Dr. E. L. DUER, in the Chair.

DR. WILLIAM GOODELL reported the following case of

EXTRA-UTERINE FŒTATION.

Mrs. B. C., æt. 30, had been married two years without conceiving, but on March 19 her catamenia ceased and she deemed herself pregnant. She now began to suffer very much from nausea and from pelvic pains, for which her physician, Dr. W. C. Parry, of Mount Holly, New Jersey, was in attendance more or less after May 6. On May 16, while ironing, she was suddenly taken with a violent colicky pain in her right groin, accompanied by a vaginal flow of blood and by collapse. These colics lasted off and on up to July 15, when she felt relieved. Dr. Parry had meantime discovered a pelvic tumor on the right side of the womb, and had diagnosed extra-uterine fœtation. But from September 5 to 13 she had great bearing-down pains, like those of labor, attended by some hemorrhage. The cervical canal dilated sufficiently to admit the finger; a miscarriage seemed imminent, but nothing was thrown off. This threw the physician off his track, and he renounced the idea of extra-uterine fœtation for that of natural pregnancy. She had felt fœtal movements, but from this time the child was still and milk appeared in the breasts.

Her health now began unaccountably to fail: she lost flesh and strength, and became bedridden. During the first week of last November she had another hemorrhage with labor-like pains, and the cervical canal and os externum again dilated during the disturbance. From this time she began to fail very rapidly, having chills, a high temperature, a frequent pulse, and quick emaciation. On November 15 I was called in to see her. On account of the excessive tenderness of the parts, ether was given. An irregular tumor occupied the abdomen, but smaller than the uterine globe at eight months' gestation. Neither fœtal limbs nor the fœtal outline could be felt, nor could the presence of any fluid be made out. The cervix uteri was in a natural position, quite hard, and with a small os externum. The sound passed in five inches and to the left. No fœtal sounds or

uterine murmur could be detected. My diagnosis was a guarded one, but leaned to an extra-uterine gestation.

On November 24, aided by Dr. B. F. Baer, of Philadelphia, and by Drs. W. C. Parry, A. E. Budd, and R. E. Brown, of Mount Holly, I performed the operation of laparotomy. As soon as the peritoneum was cut open, an adventitious cyst was exposed. I perforated it with a probe, and enlarged the opening with a uterine dilator. Finding that the placenta covered the whole lower three-fourths of the sac, I prolonged the opening upwards and removed the fœtus. It was macerated, and had been dead some time, as the flesh over the ribs was stripped off during the process of extraction. The placenta was now very slowly and carefully stripped off, without any hemorrhage: every preparation had been made to meet one. Not any liquor amnii was present. The sac was then thoroughly cleansed with a carbolated solution, and every antiseptic precaution taken. The opening in the sac was stitched to that of the abdomen, a glass drainage-tube put in, and the wound dressed with salicylated cotton. Up to December 9 everything went well. The wound united perfectly, the stitches were taken out, the temperature had fallen, and the drainage-tube was about to be removed, when, near midnight, she very unaccountably went into convulsions; these recurred and she died comatose on the morning of the 12th. Albumen was found in the urine, and at an autopsy the kidneys were found to be diseased. The fœtal sac had become obliterated, and no relation whatever could be discovered between the condition of extra-uterine fœtation and that of the kidneys which carried her off: the latter seemed to be an accident, and in no wise related to the former. From the history of this case there is no question in my mind that the operation of laparotomy for extra-uterine fœtation must be far more successful after the death of the child. For when the child is living it would, on account of the inevitable hemorrhage, be unjustifiable to remove the placenta; and the presence of so large a mass, which must slough off and putrefy, must seriously compromise the life of the woman. But when the child has been dead for some time the placenta can be safely peeled off and the sac be wholly emptied, as in my case.

Dr. GOODELL also reported

A SUCCESSFUL CASE OF HYSTERECTOMY.

The patient, a mulatto of 35, had cystic degeneration of each ovary. The pelvic and intestinal adhesions were of the most formidable character, making in themselves a long and a bloody operation. But, in addition to these complications, each ovary was so incorporated with the womb that he was obliged to remove that organ. This he did by dissecting off the bladder, by applying the wire

clamp at a point midway between the os externum and the os internum, and by transfixing the stump with two pins. Strange as it may seem, on the fourth and fifth days quite a smart menstrual flux—or, rather, a metrorrhagia—took place from this small cervical fragment. The clamp fell off on the fourteenth day, leaving a very large and deep funnel-shaped opening, which is now rapidly filling up. It is now three weeks since the operation, and the patient is convalescent. He stated that ovarian tumors are rare in the colored race, this being the second case only which he had seen. On the other hand, fibroids of the womb and fibro-cystic tumors are more common with them than with the white race.

Dr. B. F. BAER exhibited a

MONOCYST, PROBABLY OF THE OVARY, BUT WHICH CONTAINED LIMPID FLUID.

M. J. T., æt. 40, single; catamenia regular. In October, 1880, she discovered an abdominal tumor in the centre of the hypogastrium. She had been growing thin in flesh with the growth of the tumor. It apparently has varied in the degree of tension, being sometimes more flaccid than at other times. Physical examination revealed a cyst of the abdomen, not very tense, extending one hand's breadth above the navel; the coronal resonance was very marked, dulness on percussion was also marked, and there was perfect fluctuation throughout the tumor. The womb was movable, flexed to the right, and lay behind the tumor. The sound passed in three inches.

From the flaccidity of the cyst, I was at first inclined to believe it to be a cyst of the broad ligament; but the rapid growth of the tumor and the quick emaciation of the patient pointed rather to an ovarian cyst.

On December 31, 1881, the tumor was removed by Professor William Goodell. It was found to occupy a position to the left of the uterus, and was at first thought to be a cyst of the broad ligament, for the following reasons. It was a thin-walled monocyst, and contained a perfectly limpid fluid. The Fallopian tube was stretched over the surface of the tumor and elongated; the fimbriae were spread out on the wall of the cyst. But after a very careful search the ovary could not be found. In a cyst of the parovarium the ovary usually occupies a position on the side of the tumor more or less closely attached to it by a mesovarium. After the pedicle had been ligated and the tumor cut away, another careful search was made for the ovary, both in the pelvis and on the cyst, but it was not found. The right ovary was found in the normal position, and was healthy. The only portion of the cyst-wall which in any way resembles the remains of a degenerated ovary is a dense white substance corresponding in position to that which would probably be occupied by the ovary; but this forms part of

the cyst-wall, as the tunica albuginea does in ovarian cystic disease, and there is no sign of an attachment by a mesovarium.

The interest in this specimen hinges on the organ from which it was developed, if it could be proved that it originated in the parovarium. There it is of no special interest, because the arrangement of the external and middle coats allows them to be readily separated from each other, and the Fallopian tube is related to the cyst-wall in the manner described by Dr. Bantock as peculiar to parovarian cysts; the fluid furnished by it also corresponds to that usually found in such a cyst. But if it is a monocyst of the ovary it then becomes of special interest, for it is denied by several recent writers (Bantock and Tait, for instance) that monocystic tumors ever occur in the ovary, but that when such a cyst is found it is always of parovarian origin. Now, that seems to be too sweeping a statement, for many eminent authors, among them Wells, Peaslee, and Atlee, speak of having met with unilocular ovarian cysts; and I can recall a case of a large monocyst removed by Dr. Goodell from a young lady of 20 years, in which the history, the relative position of the Fallopian tube to the cyst-wall, the close adherence of the different coats to one another, the albuminous fluid, rich in cells, and the absence of the ovary, pointed pretty clearly to ovarian disease rather than to parovarian.

I also present another specimen which proves beyond a doubt that a monocyst may occur, at least while the cyst is small. This specimen was removed by Dr. Goodell from a lady 22 years of age. It presents a single cyst in each ovary, and in addition a cyst in the broad ligament of one side.

Again, if the specimen first exhibited originated in the ovary, it presented an unusual feature in the character of its fluid, which was limpid and devoid of cells. If it did not spring from the ovary, why could not that organ be found? It could hardly be congenitally absent when all the organs in its neighborhood—Fallopian tube, broad ligament, and parovarium—were present.

Dr. GOODELL did not consider this cyst one of the ovary, simply because the corresponding ovary could not be found; for one cannot make a prolonged search at such a time. Besides, he had never seen such a clear fluid from an ovarian cyst. Again, another diagnostic point of a broad-ligament cyst is the alternations of tenseness and flaccidity. So this cyst was sometimes quite tense, and at other times so relaxed as to make it difficult to define its outlines. An ovarian cyst, on the contrary, is always tense, even if it has been recently tapped, but re-filling. Further, the peritoneal and other layers of the wall of an ovarian cyst are so firmly matted together by the cicatrices made by the escape of Graafian follicles that they cannot be easily separated. In this specimen

the layers are, like those of a parovarian cyst, very easily torn apart. He had no doubt that the cyst is one of the parovarium.

Dr. T. M. DRYSDALE believed that a thorough search of the cyst might disclose the presence of the ovary, as he had in several cases of tumor of the broad ligament discovered the missing ovary spread over and incorporated in the cyst-wall. He also considered the limpid fluid, free from cells, an incontrovertible diagnostic point.

REVIEWS AND BOOK NOTICES.

POCKET-BOOK OF PHYSICAL DIAGNOSIS. By E. T. BRUEN, M.D. With Eight Wood Engravings. Pp. 256. Presley Blakiston, Philadelphia, 1881.

The volume before us is intended as a guide to the student and practitioner in making a diagnosis of diseases of the lungs and heart, and as such is an excellent book, full of practical hints and valuable points. It is divided into two parts, the first treating of the methods of diagnosis and of diseases of the thoracic respiratory organs; the second, of the diseases of the heart and pericardium, a chapter being devoted to each group of affections.

The pathological changes giving rise to the symptoms and physical signs are described in a concise and thorough manner at the beginning of each chapter, and the author refers to them again and again when he explains the physical signs of the particular group of diseases under consideration. In this way the student is led to reason out for himself the source of the sounds he hears when making an examination of the chest, and thus becomes independent of mere memorizing of sounds, which at best is a difficult task.

The illustrations—most of which are diagrammatic in character—are original and serve their purpose admirably. It would have perhaps been more convenient for the reader if they had been inserted in the text instead of having been appended as plates at the end of the book.

There are a few errors which by a little more careful proof-reading could have been detected and expunged. Otherwise, the whole exterior, as well as the typography, does credit to the publisher. C. S.

REFRACTION OF THE EYE, ITS DIAGNOSIS, AND THE CORRECTION OF ITS ERRORS; WITH A CHAPTER ON KERATOSCOPY. By A. STANFORD MORTON, M.B., F.R.C.S. Ed.; Senior Assistant Surgeon, Royal South London Ophthalmic Hospital; Clinical Assistant, Moorfields Ophthalmic Hospital. 8vo, pp. 57. Philadelphia, Presley Blakiston, 1881.

The author of this little book has shown knowledge and ability, but he has not shown

the possibility of compressing so wide a subject into so narrow a space without sacrificing perspicuity to conciseness. It is at best a difficult undertaking to treat of the refraction of the eye, its diagnosis, and the correction of its errors, not only with test-glasses and types, but with the ophthalmoscope, by so-called keratoscopy, and by the indirect method, as well as by the usual, and only really practicable, direct method, in a way that will smooth the path of knowledge for "beginners and general practitioners." But to do this in fifty-seven pages of a small and not closely-printed volume exceeds the limits of possible condensation. Some of the text will be found close reading even for those who have considerable knowledge and experience of ophthalmic work, and its dictionary-like brevity will be more than discouraging to readers who are entirely unfamiliar with the subject. The author, in his preface, expresses the hope that his notes "will make evident the necessity which exists for personally working out a large number of refraction cases in order to acquire anything like proficiency in prescribing correct glasses;" in other words, that the only way to acquire a useful knowledge of refraction is to go to work patiently and perseveringly upon the eyes of patients. If the book be considered as a contribution to the proof of this fact, the beginner is likely to arise from its perusal with the impression that the *q. e. d.* has been satisfactorily established.

G. C. H.

GLEANINGS FROM EXCHANGES.

FATAL CASE OF GELSEMIUM-POISONING.—Dr. William Watkyns Seymour reports (*Boston Medical and Surgical Journal*, December 22) a case of poisoning in which two and a half ounces of the tincture of gelsemium had been taken after a drinking-bout, "to quiet the nerves." Two ounces of this amount had been taken during six or eight hours before the time when first seen, and the remainder immediately after. As no alarming symptoms presented themselves until after the last dose, nothing special seems to have been done beyond watching the patient. When seen the second time, he had lost control over motion, and speedily became unconscious. Emesis was induced by sulphate of zinc. Brandy was then given, $\mathfrak{z}\text{ij}$ hypodermically and $\mathfrak{z}\text{j}$ *per recto*, followed by faradization of the diaphragm and intercostal muscles, with but temporary benefit. Atropia (one-fortieth grain, hypodermically), nitrite of amyl inhalations, and carbonate of ammonia by the mouth were also tried, but without success, the patient dying comatose and cyanotic six hours after the ingestion of the last dose. The faradic current when at first used was prompt and satisfactory, but it seemed later to lose its power.

DISEASE OF THE BRONCHIAL GLANDS.—Dr. De Castro, writing to the *London Medical Times and Gazette*, December 17, gives three typical cases of disease of the bronchial glands occurring in young and middle-aged persons, and which disease he agrees with Dr. Quain in asserting is frequently overlooked or mistaken for other maladies of the lungs in adult and advanced periods of life. In these cases the most prominent symptoms were: habitual imperfect respiratory power, shown by a certain amount of embarrassment in breathing, especially under stress of exertion; liability to asthmatic attacks; slight cough and expectoration; some pain in the chest; in some cases hæmoptysis; altered voice, and extreme thinness without progressive emaciation. The physical signs were slight dulness anteriorly, somewhat below clavicle on one side or both, requiring strong percussion to develop, with decided dulness posteriorly below scapula corresponding. These cases were at first thought to be tubercular, but were finally diagnosed as disease of the bronchial glands; and in one case a post-mortem examination confirmed the diagnosis. The history of "bronchial gland disease," when occurring in early life, is almost identical with that of acquired collapse of the lung, or apneumotosis; but the developed diseases have certain differences. To defective respiratory power and embarrassment of breathing characteristic of apneumotosis, there are in bronchial gland disease generally superadded indications of intrathoracic centripetal pressure,—viz., alterations in the character of the voice, paroxysmal attacks of difficulty of breathing, hæmoptysis, pain; and the same differences exist as between the malady under consideration and pneumatic and fibroid consolidation of the lungs, excepting always hæmoptysis, which is not infrequent in fibroid disease of the lung (cirrhosis). The chief seat of dulness in apneumotosis is the mammary region and the base of the lung. In bronchial gland disease the dulness is most marked posteriorly about the margins of the scapulæ: what dulness exists anteriorly generally requires rather strong percussion for its development, and is manifestly derived from the posterior condensed tissues.

INJURY TO THE CERVICAL PORTION OF THE SYMPATHETIC NERVE IN REMOVAL OF A SARCOMA—MYOSIS.—In the course of the removal of a sarcoma of the size of a small orange from the upper portion of the right anterior triangle of the neck, by Dr. Chavasse (*British Medical Journal*, December 17), it became necessary to dissect away the trunks of the pneumogastric and cervical sympathetic nerves to which the tumor had become adherent. At the conclusion of the operation the pupil of the right eye was seen to be contracted to the size of a pin's head. Three days later the pupil was still irregularly contracted as at the conclusion of the operation, but acted

under stimulus of a strong light. There was also drooping of the palpebral fissure; but the sight was unimpaired. There had been frequent and distressing vomiting. A few days later, a few drops of atropine were placed in the affected eye, but the pupil dilated very slowly under its action. Two months after the operation, the pupil was still contracted irregularly, and responded but slowly to changes in the intensity of light. The accommodation was good, and vision equalled

$\frac{15}{XV}$. Two months later, the narrowing of the palpebral fissure was hardly perceptible; ptosis was slight; pupil larger than it had been, but not of the same diameter as its fellow; no emaciation of cheek, and no flushing or redness of conjunctiva. In six months after the operation, all the oculo-pupillary symptoms had much improved; but since that time they have remained *in statu quo*. Fifteen months have now elapsed, and it seems doubtful if the normal condition will ever be regained.

SCIATIC NERVE-STRETCHING IN LOCOMOTOR ATAXY.—Dr. John Cavafy (*British Medical Journal*, December 10 and 17), commenting upon nineteen cases, collected, of stretching of the sciatic nerve in locomotor ataxy, says that it is probable that benefit is always to be expected from the operation so far as the pains are concerned, but that the prospect of improvement in the ataxy is much less certain. He is inclined to think that the operation is applicable especially to early cases and where pain is a prominent symptom, but should not hesitate to employ it in later ones also, as it has not been followed by any injurious results beyond temporary paralysis, and this very rarely. The rupture of a vein in one case, and the venous thrombosis and erysipelas in two others, he considers as mere surgical accidents. He urges the desirability of coming to some agreement as to the mode of operating, and especially as to the force to be employed,—such expressions as "strongly," "violently," etc., being but relative terms and capable of varying interpretation. In conclusion, he writes, "So far as we know, a forcible extension of a nerve, when not excessive, is followed by temporary paralysis only, and, further, the operation seems to act on the spinal cord as well as on the nerve itself."

MISCELLANY.

OPIUM IN CHINA.—According to the report of the Inspector-General of Customs of China, only two-thirds of one per cent., or 2,000,000 of the population of 300,000,000, choose to consume opium. The annual importation of the drug into the country amounts to 100,000 chests of 133 pounds each, about one-third

of which is, however, lost in its conversion into prepared opium. The home production amounts to as much as that imported, and together with it costs about £25,000,000 annually. Five drachms is the calculated average amount used by each smoker daily, and fivepence to elevenpence its cost. It is claimed that the drug prevents the waste of tissue, and is to the poor Chinaman what tea is to the same class in the United Kingdom; while a protest is made against its being bracketed with alcohol in one sweeping condemnation, as the latter is only a temporary stimulant, while opium may, in time of famine, take the place of food. It is claimed by Sir C. E. Trevelyan that if the growth of opium were interdicted, the country would be overrun with smugglers, and that if the government gave up the monopoly, and levied only an excise, its responsibility would still remain, whilst the control of the growth and manufacture would be rendered more difficult.—*Medical Times and Gazette*, December 10.

THE FRENCH SOCIAL PROBLEM.—At the beginning of the present century, with a population of not more than twenty-seven millions, there were actually more births in France than took place in the year 1880. M. Legrand, in his well-known essay on "*Le Mariage et les Mœurs en France*," states that between 1800 and 1815 the number of children born per marriage averaged 4.24; since then it had sunk gradually, and in 1860 averaged only 3.03 for the five preceding years. It rose again until 1865, but has since declined, and in the year 1871, the date of the Franco-German war, reached its lowest depth of 2.26. In 1872 the average rose to its highest for the last few years,—namely, 2.67; and in 1877 it was 2.55. M. Legrand asserts, on the strongest possible grounds, that this decrease in the birth-rate of his country continues, and is becoming more marked as the years go by. It is a noteworthy and perhaps ominous fact that lately the number of marriages have not decreased. Indeed, there are actually more marriages per cent. in France than in England, the average per hundred being in the former .88 and in the latter .86.—*Medical Press and Circular*.

In a recent issue of *Nature*, Prof. Graham Bell refers to the statements attributing heredity of dialect to deaf-mutes who have been taught to speak, and says that during the past few years he has examined the pronunciation of at least four hundred deaf-mutes who have been taught to speak. He adds that it is true that in a few cases dialectic pronunciations are heard, but it always turns out upon investigation that such children could talk before they became deaf.

NITRITE OF AMYL is alleged to be an effectual remedy in chordee and painful priapism. Three to five drops, by inhalation, is the proper dose.—*British Medical Journal*.

DR. M. B. MANN has been appointed to the Obstetric Chair in the Buffalo Medical College, made vacant by the death of Prof. J. P. White.

NOTES AND QUERIES.

CORRECTION.

In the discussion following Dr. Seiler's paper on an improved galvano-caustic battery (vol. xi. p. 762), Dr. W. R. D. Blackwood is reported as observing that "he saw an advantage in connecting the battery *beneath* the fluid,"—a statement which is not only erroneous but absurd. What Dr. Blackwood *did* say was that "in the battery arranged by himself the plates projected *above* the *element-board*, were connected completely outside the cell, and thus thoroughly isolated from the fluid or fumes, which in time destroyed the connections as usually made. The commutator was arranged to connect in one position the eight carbons (anode) together, and the like number of zincs (cathode), forming a single pair for quantity or galvano-caustic effect; and by a quarter-revolution the plates were connected in multiple series for intensity, and were then available as a motor for driving the static machine."

I had not noticed this until now, and desire to have my remarks correctly reported.

Very truly,
W. R. D. BLACKWOOD.

January 12, 1882.

PHILADELPHIA, January 21, 1882.

EDITOR PHILADELPHIA MEDICAL TIMES:

DEAR DOCTOR,—I clip the following from the *Medical News* of this date, and hasten to send it to you, as it will give you satisfaction to see the little crumb cast so recently upon the waters return from its long journey in so good a state of preservation, unadorned by any finishing touches of æstheticism, not waterlogged nor soured by any tenets of Irish land-leaguism. Originating in a few suggestions made by me before the Philadelphia County Medical Society, and reported *verbatim* in your valuable journal, it now returns once more to its place of birth, with virginal purity. "No man is a prophet," etc.

"Albumen-water is recommended as a good substitute for milk and beef-tea in cases where these substances disagreed with the patient or could not be obtained. The preparation is largely used by the French. It is made by dissolving the white of one or more eggs in a pint or two of water, sweetening with glycerin, and flavoring with orange-flower water. It may be taken cold and used *ad libitum*. It is an excellent food in typhoid fever and typhoid dysentery."—*Dublin Journal of Medical Science*, September, 1881.

Yours truly,
J. M. K.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 8 TO JANUARY 21, 1882.

GARDNER, WM. H., CAPTAIN AND ASSISTANT-SURGEON.—Now at St. Augustine, Fla.; to proceed to San Antonio, Texas, and report in person to the Commanding General, Department of Texas, for assignment to duty. S. O. 14, A. G. O., January 19, 1882.

LA GARDE, L. A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, to take effect on arrival of Acting Assistant-Surgeon Collins at Cantonment on the North Fork of the Canadian River, Ind. T. S. O. 12, Department of the Missouri, January 16, 1882.

BIRMINGHAM, H. P., FIRST-LIEUTENANT AND ASSISTANT-SURGEON, who returned to Fort Leavenworth, Kans., on 12th instant, from leave of absence, to proceed to Fort Gibson, Ind. T., and report to the Commanding Officer for duty, relieving Acting Assistant-Surgeon Collins. S. O. 12, C. S., Department of the Missouri.

WHITEHEAD, W. E., CAPTAIN AND ASSISTANT-SURGEON.—Died at Tarrytown, N.Y., on January 15, 1882.

PHILADELPHIA, FEBRUARY 11, 1882.

ORIGINAL LECTURES.

CLINICAL LECTURE ON A CASE OF SARCOMATOUS TUMOR.

Delivered at the Allgemeine Krankenhaus, Wien, January 9, 1882.

BY PROF. BILLROTH.

GENTLEMEN,—This man, B. F., a native of Austria, white, 26 years old, married, comes to our clinic to-day complaining of a large swelling just above his left knee, extending, as you see, one-fourth the distance up the thigh. This swelling involves the circumference of the limb, although it is greater upon the outer aspect. It is lobulated, as if encapsuled: its consistence varies from hardness to extreme softness.

The skin is somewhat pigmented, and the superficial veins are distended, but in no place is the skin adherent to the tumor.

The local temperature is not elevated, and there is comparatively little tenderness. The knee, however, is contracted, as the result of inflammatory irritation.

The surgical history of the case, which the registrar has just read, is scanty, but possibly will answer our purpose. Three and one-half months since, this man received a contusion of a trivial character in the region of the left knee. One month subsequently he noticed, for the first time, a small swelling upon the outer aspect of the lower extremity of the left thigh. This he supposed was the effect of the contusion. His village physician advised cataplasms and similar remedies; but their application was attended with no improvement. One month later he was compelled to take to his bed: since that time the tumor has increased in size until it has reached its present proportions. At the same time the left knee has become greatly contracted. At no period of development has the tumor been the occasion of great pain. Its size now is not larger than a man's head. Our patient's health, according to his own statement, has been exceptionally good until within the last three and one-half months. During the growth of the tumor, however, he has had several slight hemorrhages from the lungs.

In regard to the man's family history, the following facts have been elicited. His mother died of phthisis, probably of a tubercular character. His father and his own children are perfectly healthy.

Physical examination reveals the existence of disease in the apices of both lungs. It is, however, incipient. As to the diagnosis, there can be but little doubt that the tumor is a sarcoma,—probably a central osteosarcoma, possibly a periosteal osteosarcoma.

The diagnosis must be made by attention to the following points. Sarcomata occur very frequently after some local irritation. In the present case, however, I do not think the contusion stands in a causative relation to the tumor. A month elapsed between the reception of the wound and the first appearance of the tumor without the development of any symptom. The locality is a not unfrequent one for sarcomata. Skin, muscle, nerve, bone, periosteum, less frequently glands, are the usual seats.

Sarcomata occur most frequently in middle life, occasionally in the second decade, rarely in old age; and least frequently in infancy. I have never known sarcomata to occur in the long bones except in middle life. Sex seems to be without influence. The tumor is relatively painless, unless placed in immediate relation to a nerve-trunk. The tumor is encapsuled, and does not infiltrate. The rapidity of growth and consistence are without diagnostic import.

The pathology of sarcomata is interesting. Their precise anatomical and pathological definition and limitation are, even yet, far from certain.

In general it may be said, a sarcoma is a flesh-like tumor composed of tissue belonging to the developmental connective tissues. These tissues do not go on to form a finished type of tissue, but tend to peculiar degenerations. The naked-eye appearances of osteosarcomata are well illustrated by the specimen and paintings now in your hands. Generally they have a sharply-defined, rounded outline. They are encapsuled, and are so differentiated from the infiltration of carcinoma. Sarcomata only rarely affect the surface. Color, consistence, vascularity, vary indefinitely.

One peculiarity of sarcomata must be

mentioned before leaving the subject. They are sometimes so white and soft as to resemble the brain-substance.

The anatomical metamorphoses of sarcomata are numerous, and are illustrated by the specimens placed before you.

In the sarcomata occurring in connection with bone, as in the present case, ossification is very common, and it may go on until the sarcoma is converted into an osteoma.

I am inclined to the opinion that, in the present state of our knowledge of sarcomata, their numerous subdivisions, based upon their histological characters, are of no great value in the diagnosis of sarcoma during life, and that the diagnosis, prognosis, and course of these tumors depend so much on locality and rapidity of growth that I will here say but a word upon their microscopic appearances. It is probable that a section of this tumor would reveal giant-cells in large numbers. These giant-cells occur very frequently in central osteosarcoma, less frequently in periosteal osteosarcoma. By softening, these cells lead to the formation of cysts, or they may ossify: both of these conditions, probably, obtain in the present case. It has been stated that these giant-cells may form the nucleus of a smallest tubercle.

As to prognosis and course, I need only say that central osteosarcomata are generally solitary tumors, very seldom tending to general infection. In regard to their topography, they develop most frequently in the lower jaw, next frequently in the tibia, radius, and ulna, comparatively rarely in the present situation.

Our patient asks us to do the best we can for him. Resection and local extirpation of the bone are out of the question. We must amputate immediately above the tumor, about the middle third of the thigh. In these operations I adopt a modified form of the antiseptic method. The thigh, in the first place, is shaved around its middle third, then thoroughly scrubbed with brush, soap, and five-per-cent. solution of carbolic acid in water. Above and below the site of the amputation cloths saturated with five per cent. solution of carbolic acid in water are placed. I employ no spray, but you see here a small rubber hose which affords a convenient method of douching the limb and stump with a three-per-cent. solution of carbolic acid in water. Instruments are submerged, when

not in use, in a three-per-cent. solution of carbolic acid in water. A five-per-cent. solution of carbolic acid in water is employed for washing the hands of the operator and assistants.

As an anæsthetic, I use chloroform.

Before the operation the vessels must be emptied of their blood by Esmarch's plan. Instead of the tube, however, I employ a flat rubber band. After the operation the vessels are secured by torsion, acupressure, and the catgut ligature.

As regards choice of methods, I believe the circular incision is the normal method for all amputations. For the present case the *circular incision in three planes*, by which the skin, muscles, and bone are divided in these different planes respectively, I deem best. The knife for the operation has a blade twelve inches long, with heavy back. The actual performance of the operation, at the request of my assistant, Dr. Anton Wöfler, I will give to one of his students.*

Now, gentlemen, here you have the three incisions-strata, namely, that of the skin, that of the muscles, and that of the bone. The latter lies at the bottom of the funnel-shaped wound.

A jet of the three-per-cent. solution of carbolic acid in water is now turned upon the stump for a few moments. The vessels are then secured in the manner I have indicated, and the Esmarch band is removed. As hemorrhage has now entirely ceased, the edges of the incision must be approximated vertically, after every part of the stump has been thoroughly douched with the three-per-cent. solution of carbolic acid in water. For this approximation I employ two sets of sutures. The first set consists of three. They are silver wire, with one flat, round piece of lead at each extremity. These pieces of flat, thin lead, when approximated and held in position by two to four perforated shot, are separated from each other by the opposite edges of the stump. They are passed through three-fourths of an inch from the free border of the circular incision. In this manner three-fourths of an inch of raw surface along the now vertical line of incision is secured in absolute approximation. The free border of the incision is secured by the second set of ordinary

* Here the assistant came forward and operated in the manner expressed in the text, Prof. Billroth watching and criticising.

white silk sutures. Three pieces of carbolyzed drainage-tube, with their extremities closed by clips, are introduced into the wound.

This mode of suturing was introduced by Lister, but was first applied in cases of this kind by myself. For a dressing, strips of a coarse gauze, disinfected and with its meshes filled with powdered iodoform, are employed. Around the stump and over the gauze cotton deprived of its fat is placed in sufficient quantity to exclude foreign matter and secure equable pressure. Over the whole an impermeable rubber cloth is placed and secured by a number of bandages which turn round the groin in the form of a Spica. As a still further precaution, the entire limb and dressing is surrounded by plaster-of-Paris bandages, in the form of a Spica of the groin. This dressing will be removed and renewed to-morrow. The patient has now recovered from his narcosis, and evinces very little shock. His diet will be restricted, but he will not be confined to milk.

Length of operation, 11.30 A.M. to 1.30 P.M.

Tuesday, January 10, 11.30 A.M.—The reporter of this lecture was present when Dr Billroth inspected his patient twenty-four hours later. The patient's general condition was excellent; he had slept well, and did not complain of pain; temperature ranged from 37° to 37.5° R.; pulse and respiration normal.

The entire dressing was removed from the stump, and the drainage-tubes were removed, made shorter, and restored. The iodoform gauze was renewed, but no water was applied to the stump. Cotton in less quantity than for the first dressing was reapplied. Over the usual rollers a number of plaster-of-Paris bandages were again applied in the form of a Spica of the left groin.

Dissection of the amputated limb and microscopic examination of the tumor established the truth of the diagnosis of osteosarcoma of central character.

NERVE-STRETCHING has been abandoned by Billroth after a fair trial.—*New York Medical Record*.

OWING to the removal from Denver of Dr. Adams, the *Rocky Mountain Medical Review* has changed its name to the *Rocky Mountain Medical Times*. It is edited by Drs. Thomas H. Hawkins and F. A. E. Disney.

ORIGINAL COMMUNICATIONS.

REMARKS ON PERSISTENT HYALOID ARTERY—TWO CASES PRESENTED FOR OBSERVATION.

Read before the Philadelphia County Medical Society, November 16, 1881,

BY W. S. LITTLE, M.D.

THE hyaloid artery and its branch, the capsularis artery, which, as it is spread about the posterior capsule of the crystalline lens, forms the capsularis membrane, and which in the region of the circulus Mascagnii joins the pupillary membrane, which covers the anterior capsule of the crystalline lens, arising from the margin of the pupil, are for the development of the crystalline lens; after the accomplishment of this the hyaloid artery and the capsulo-pupillaris membrane disappear, the space occupied by them, according to Stilling and others, fulfilling another function, that of a lymph-space. The development of the crystalline lens is similar to that of the whole fœtus, and when it is fully formed the source of its nutrition is cut off, and the channel through which this occurred takes on another function.

The crystalline lens is developed from the same layer as the conjunctiva and the epithelium of the cornea, the epidermic layer or ectoderm. As the depression in the anterior pole of the ocular vesicle advances, the margins of the depression approach and unite again, leaving an impacted pouch, which finally separates from its connection, and then a tissue which was outside of the ocular vesicle is found inside of the vesicle; from this the formation of the crystalline lens begins, the hyaloid artery is sent forward to this tissue, and its capsularis branches encircle it behind, and branches from the margin of the pupil cover its anterior portion and anastomose with the capsularis membrane, forming the capsulo-pupillaris membrane; the cornea is formed by a gradual advancement and union of the cephalic layer underneath the epidermic layer in front of the crystalline lens.

The hyaloid artery lies in the hyaloid canal, or canal of Cloquet, and is a branch of the central artery of the retina, or one of its retinal distribution. The canal begins at the optic nerve entrance, and close to the nerve is called the area Martegiani. Its depth is here greater, the width two millimetres wide, same as it is throughout

the length of the canal, which is about that of the axis of the vitreous body, fifteen and four-tenths millimetres; the axis of the hyaloid canal corresponds to that of the optic nerve or blind spot of Mariotte.

Cloquet thought it to end in a blind sac at the fossa patellaris of the vitreous body, in which fossa the posterior capsule, with the posterior portion of the crystalline lens, is deposited. Stilling has found that the canal is coextensive with the space occupied with the capsulo-pupillaris membrane. The canal does not cross the visual axis of the eye, and is no source of defect to vision; as it lies in the axis of the blind spot, the optic nerve, even when it is occupied in post-foetal life by the artery; on account of its position, the shadow of it does not fall upon the region of the yellow spot in the retina.

Only an artery occupies the canal, though Liebreich quotes a case where a vein was present; the artery at the end of the sac turns upon itself and passes backward again, though it gives off branches at the point to form the capsularis membrane, and the veins of the choroid take the place of the necessity for a hyaloid vein.

H. Müller in 1856 found this canal to exist in the eye of an ox; the same is found in the eyes of swine, dogs, horses, deer, and moose. In the sheep it is smaller,—one-half to one millimetre in width. In the other animals mentioned it is two millimetres wide, the same as in man. The artery, persistent or partially present, can be found in the eyes of these animals.

After the ophthalmoscope came into use, Saemisch in 1863, also Hannover about the same time, observed the presence of the artery persisting in a human eye. Zehender, Stör, Laurence, Mooren, Liebreich, Flarer, and Wecker have seen additional cases; Dr. Schapring, of Philadelphia, also.

In the "Handbuch der Gesamten Augenheilkunde" the anatomy and literature of the subject can be found, given by Merkel, Schwalbe, Manz, Liebreich, Leber, Wecker, and Becker.

Manz classifies it under the head of malformation of the eye, when found persistent after the birth of the foetus. Along with the hyaloid artery portions of the capsulo-pupillary membrane may also be found as a malformation. As Becker asserts the impossibility of an eye being developed

without a lens, in the period of development of the lens it is a constant and necessary quantity, and when this is accomplished it should disappear. In cases of ectopia of the lens and vitreous body it is seen most frequently remaining persistent.

I do not know the refraction of the eyes in which the many observers have seen it, but in the two cases now present the hypermetropic form exists, and such eyes can be classified as those that have not reached full development for the function of sight.

While its presence has no connection with the pathology of the eye, the finding of it has stimulated the study of the minute anatomy of the eye. Its presence is, however, to be differentiated from blood-vessels developed in the vitreous body from severe inflammation of the vascular tissue of the eye and which are found in the examination of eyes lost by anterior staphyloma or in phthisis bulbi.

I present two cases of persistent hyaloid artery from the eye department of the Jefferson Medical College Hospital. The first one was found in a boy 6 years of age, who came to me at the request of Dr. Hearn, of this city, for the correction of a strabismus convergens. His case, with a picture very accurately drawn by Dr. J. M. Taylor, I presented to the American Ophthalmological Society at its last meeting. In his case the artery will be found containing blood, with the capsulo-pupillaris membrane entirely absorbed, and its free end oscillates in the vitreous body behind the crystalline lens.

The boy is hypermetropic, and +4D shows its region on the disk, +6D its middle portion, and +9 to +12D its extremity, according to the extent of its oscillation. As you can see the case for yourselves, a more minute description is unnecessary.

The second case possesses the artery only in its tissue, and with the capsularis membrane free from blood, though there is a slight pigmented material in the artery; it appears as a spectre of that existing in the first case, a fine opaque membrane only, attached to the posterior portion of the lens and passing backward to the optic nerve, between which attachments it is seen to oscillate. The course of the vessel is about the same as that in the first case.

The observation of the two cases illustrates better than words the conditions present and what their function is.

In closing, let me say, since the analogy between the development of the lens in the eye and the whole foetus is so close, since the eye possesses tissues similar to those existing generally in the body, and its circulation and nervous connection so anastomotic with the whole body, we should undertake the studying of the anatomy of the eye to help explain the development of the whole structure, and at the same time study it so as to render our treatment of it alone scientific and rational. On account of this analogy, those that treat the eye alone cannot be altogether ignorant of the rest of the human structure.

Ophthalmology is not so closely related to surgery as it is to medicine, and its future advancement lies mostly in its connection with general medicine.

While ophthalmic surgery may tend to specialism, ophthalmic medicine affords the opportunity to make a general diagnosis.

COMPOUND DISLOCATION OF THE WRIST, WITH EXTRUSION OF THE SEMILUNAR BONE.

Read before the Clinical Section of the Philadelphia County Medical Society, November 16, 1881.

BY M. O'HARA, M.D.,
Physician to St. Mary's Hospital.

D. A. B., æt. 40, while going through a tunnel, on a railroad-car, at the rate of seventeen miles an hour, under sudden panic of apprehended collision, jumped from the platform. He was picked up insensible, in which state he remained for five minutes. He struck with his left hand on a rock and rolled, bruising his body in various places. He was immediately placed under the care of Dr. Schirner, of Tamaqua, who sends the statement that there was a dislocation at the wrist and fracture of the radius and ulna, which protruded at a wound at the ulnar side of the forearm. There was also, he states, displacement of two of the carpal bones, which were moulded into their respective places after reducing the dislocation and setting the fracture.

He came under my care two days after the accident. There was considerable local and constitutional irritation, and the parts were very much swollen. There was an open wound, about half an inch in length, on the ulnar side of the forearm.

On account of the local inflammation

and the parts appearing properly in shape, no further examination was made. Apprehending ill consequences from the nature of the injury, I asked the counsel of Prof. Gross, who aided me in the conduct of the case thereafter.

The inflammation of the carpus, wrist, and forearm became very violent, and lead-water and laudanum, with applications of ice in an india-rubber bag, were ordered, the limb being elevated and placed upon a Bond's splint. Suppuration was profuse, and the whole limb became erysipelatous. Exacerbations of inflammation recurred every other night, for which large doses of morphia and quinine were given. The traumatic fever merged into pyæmia, during which the quinine was increased to thirty grains daily, with free stimulation.

At the end of ten days a displaced bone could be felt higher up than the original wound, which by this time, through ulceration, had become larger. It could not be decided whether this was a fragment of the radius or a carpal bone. Later on this was considered a source of irritation and was removed by Prof. Gross. It proved upon examination to be the semilunar bone. Burrowing abscesses were laid open and sinuses scraped, and the overhanging ledges of skin cut away. With a probe it could be ascertained that a sinus led into and between the bones of the carpal articulation.

Symptoms of pyæmia occurred about twenty days after the reception of the injury, quite marked, rigors, sweats, high and irregular temperature, attempted formation of abscesses in the calves of the legs and thighs, and inflammatory deposits in the elbow- and shoulder-joints. These symptoms would come and go, but did not proceed further than an absorbable exudation into the parts named, and did not proceed to suppuration. During the pyæmic stage the granulations were angry, unhealthy-looking, and exhaled an ammoniacal odor. This odor was apparent on the breath also. At this time it was necessary to suspend the arm and hand in the prone position, and only at this time, from the bending down of the hand, did it become apparent that there was a fracture of both bones about four inches above the wrist-joint. Through constitutional treatment and local applications, especially of acid nitrate of mercury, the wound gradually cicatrized, a little bone-dust, occasionally

with pus, coming from the sinus leading to the carpal bones, which finally closed.

The patient was three months ailing, but I present him to you with a very useful wrist. There is some slight ankylosis, which does not materially interfere with his daily duties. For much of the useful state of his wrist and fingers he is indebted to the assiduous attention of Dr. Lopez, who applied the faradic battery and passive flexion, and I must here thank him for the constant assistance he rendered me in the case.

The case is of interest for its extreme rarity and for the recovery from a very violent injury attended with extreme traumatic inflammation and severe pyæmia. From the patient's description, I would take it that there was a posterior dislocation of the hand, the hand on a plane posterior to the forearm; the upper end of the carpus formed a prominence on the dorsum of the wrist, and the lower end of the radius and ulna projected on the palmar surface. The carpal articulation being loosened by violence, in the process of replacement of the parts the semilunar bone was shot upwards on the front of the forearm.

Cases are related where the os magnum suffers a partial dislocation from the cavity formed for it by the scaphoid and semilunar bones, caused by violent flexion of the wrist, as in a fall on the back of the hand.

Holmes (p. 834) says, "Erichsen records a dislocation of the semilunar and pisiform bone; the latter was displaced by an effort to lift a heavy weight and drawn up the arm to the distance of an inch by the flexor carpi ulnaris.

"In the museum of St. George's Hospital is a curious specimen of compound dislocation of the semilunar bones of both sides, occasioned by a fall upon the hands from a great height. The bones were completely forced from their situation through a wound on the anterior surface of the wrist, one of them merely hanging by a small shred of ligament." Chisolm reports a forward dislocation of the semilunar bone in which excision of the displaced bone was required.

31 SOUTH SIXTEENTH STREET, PHILADELPHIA.

THE EASTBOURNE PROVIDENT DISPENSARY, England, pays a physician two shillings a year per member for attendance, and allows fifteen pounds per annum for medicines, in a district where there are four hundred and fifty members.

SCENTED IODOFORM POWDERS FOR THE EAR.

Read before the Philadelphia County Medical Society, November 10, 1881.

BY CHARLES H. BURNETT, M.D.

IODOFORM is stimulant and anæsthetic, and has long been recommended as a local remedy in chronic inflammations of the middle and external ear, attended by discharge from the meatus. Its formula is CHI_3 ; it belongs to the methyl compounds; contains ninety-six per cent. of iodine by weight; when heated it will liberate iodine and hydriodic acid, and when only exposed without heat it will volatilize slowly, and to this volatilization is due the unpleasant odor. It is doubtless a useful remedy, especially in chronic purulent inflammation of the drum-cavity; but the odor of the drug, unpleasant alike to physician and patient and to their respective families, has wellnigh banished it from aural practice. To the writer it is not unpleasant; but so nauseous is its odor to most persons that positive injunctions not to use it have been laid on the surgeon by the patient's family. In order not to lose this beneficial aid from my armamentarium, it has occurred to me to have the iodoform scented with some of the essential oils, balsams, etc., for use in the ear, as has been done by others in ointments containing iodoform to be applied to other parts of the body.

Therefore, through the kindness of Mr. Charles P. Stout, of H. C. Blair's Sons, Eighteenth and Chestnut Streets, in this city, I have had made a number of combinations of iodoform and scents, and in two instances the combinations have been such as to deodorize in a measure the iodoform by forming another, but highly useful, compound, as will be shown later.

These powders are composed as follows:

1. Iodoform, gr. xx;
Ol. menth. pip., ℥iv.
2. Iodoform, gr. xx;
Ol. gaultheriæ, ℥ii.
3. Iodoform, gr. xx;
Ol. amygd. amar., ℥ii.
4. Iodoform, gr. xx;
Ol. lavandulæ, gtt. ii.
- *5. Iodoform, ʒi;
Tr. dipteris odorat., fʒij.

* After having read this paper, the writer saw in the *Philadelphia Medical Times*, November 19, 1881, that Mosetig, of Vienna, had endeavored to mask the odor of iodoform by Tonka bean, *Dipteris odorata*.

6. Iodoform, gr. xx;
Ol. menth. pip.,
Ol. lavandulæ, ʒʒ ℥j.
7. Iodoform, gr. xxx;
Ol. amygd. amar.,
Ol. lavandul. flor.,
Ol. menth. pip., ʒʒ gt. i.
8. Iodoform, ʒj;
Bals. Peruvian., gr. iij.
9. Iodoform, gr. xx;
Tannin, gr. x.

By thus scenting the iodoform its use is rendered more agreeable, and in the combinations with the non-oxygenated essential oils, like lavender oil or any of the turpentine series, there is probably obtained a good result in the diseased ear by the oxygenation of the essential oil, since in such oxygenation ozone is said to be generated, and this acts as a disinfectant and an antiseptic. As it is asserted that the exhaled odor of cut flowers in a bouquet produces ozone and makes them beneficial in a sick-room, it would seem likely that the exhalation and oxygenation of an essential oil might produce a similar result in a diseased cavity like the ear. On this point, however, it is desirable to hear from the chemists present.

In the case of iodoform combined with tannin, and in the combination with Peruvian balsam, the iodoform is very slowly broken up, and there is formed an iodide of tannin. This prevents volatilization of iodine, and diminishes the odor. Thus in the same powder we have the iodide of tannin, tannin, and iodoform. This powder not only smells the least, but is one of the most efficient in its healing power. The powder composed of iodoform and Peruvian balsam has the advantage of an agreeable odor, and of possessing at the same time a larger proportion of iodoform than the combination between this drug and tannin, as it requires but little Peruvian balsam to impart the pleasant odor to the mixture. I have used this particular powder, and that composed of iodoform and tannin, with so much satisfaction that to these two I give the preference as iodoform powders for the ear.

In regard to the others, it may be said that they possess all the virtues of iodoform, but, owing to the rapid evaporation of the essential oils, they ultimately possess the characteristic smell, excepting just at the moment of using them, nearly as much as pure iodoform.

All of the powders may be applied to the ear by blowing them in with a small powder-blower, or they may be carried in by means of cotton rolled on the end of a dentist's cotton-holder under perfect illumination of the auditory canal and the drum-cavity by means of the forehead mirror. These and all other medicaments are worse than useless if applied to a running ear by means of cotton, which is allowed to remain even for a short time in the canal, because the discharges are thus retained, maceration brought about, granulations favored, and foulness of the ear certainly produced.

So far as iodoform is concerned in diseased ears, it is best applied so as to produce at most but a thin film over the ulcerated or inflamed surface; and this is efficiently accomplished by smearing it on by means of the dossil on the cotton-holder, as already said.

THE SURGICAL ENGINE AND THE COCCYX—REMOVAL OF THE SUPERIOR MAXILLARY BONE WITHOUT AN EXTERNAL INCISION AND WITHOUT LOSS OF SOFT ROOF OF MOUTH.

A GENTLEMAN who assisted at both operations favors us with further illustrations of the capabilities of the Bonwill surgical engine as applied by Prof. Garretson.

I.—REMOVAL OF THE COCCYX WITHOUT DISTURBANCE OF THE PERINEAL ANATOMY.

This operation was done at Penn Manor on the person of a lady, a patient of Dr. William Kirk's, who had suffered from the complications of coccydynia for a period of thirteen years. Exposure of the coccyx revealed it as fractured and standing at right angle with the sacrum. The proposition of the manipulation, as enunciated by the deviser, considers the removal of the bone from a stand-point of simple enucleation; in other words, the removal of the part from its envelope of periosteum without disturbing the under layer, which is the surface of attachment for the soft parts constituting the posterior perineum. It will be seen that the purpose is secured absolutely, and that no disturbance of anatomical function can result.

Operation.—The patient being etherized and placed partially upon her abdomen, an arm being under the body at the

region of the diaphragm, to secure freedom in respiration, an incision was made through the skin and superficial fascia the length of the coccyx. These tissues being carried to either side by means of retractors, a second incision was made through the periosteum, and by means of a chisel-shaped knife this structure was raised and everted. In this last is the peculiar operation as practised by Prof. Garretson: it is as though one might cut down the centre of the upper surface of an envelope, exposing, in the turning aside of the paper, a letter lying upon the lower face of the envelope, the turned-aside upper part being of continuity with the bottom of the paper. A succeeding step employs the engine. A circular burr, the face side alone of which is cut, is placed in the grasp of the hand-piece, and, while in revolution to the extent of ten thousand times to the minute, is applied, with delicacy of manipulative touch, to the surface of the bone. In the case being recorded, five minutes sufficed for the disappearance of the coccyx in the shape of bone-dust, the under face of the periosteum remaining as undisturbed as though it had never been in relation with the coccyx. The wound, a superficial one, was put up to heal by first intention. Prof. Garretson was assisted in the operation by Drs. Kirk, Paxon, and Cottrell. The ease with which this operation is done after the manner described is its commendation. There would seem to be no probability of danger in it.

II.—JAW OPERATION.

This was an operation practised at the Oral Hospital, Monday, December 12, on the person of a young lady from Woonsocket, Rhode Island, a patient of Dr. Buckland. The disease was ivory exostosis. The tumor involved the entire right superior maxilla, producing a characteristic deformity.

In this case Prof. Garretson made the proposition that it would be found possible to remove the jaw without a cut that could be seen either from the outside or the inside. The patient being etherized, the operation was commenced by dissecting the soft parts from the jaw, thus affording a free exposure.

A succeeding step consisted in the removal of the central incisor tooth of the affected side, and in the use of a circular saw of small diameter revolved by the engine, which last, with a single moment of

its revolutions, separated the one jaw from the other with such delicacy as to leave no line showing where the very fine instrument had passed.

Next followed a rose-head burr of large size and perfect temper, made for the occasion. This burr being placed in the mandrel, all the power possible was put into the engine, and little by little the hard mass was enucleated from its surroundings,—one hour and forty minutes being required for the work and for proper attention to the most careful etherization required.

In the steps of the operation each uncovering of the outside boundaries was named, and the parts exposed to the touch of different medical gentlemen present: the two for the removal of the orbital plate and the anterior wall of the sphenomaxillary fossa excited much interest. The burr, when it took away the bony floor of the eye, was running certainly not less than fifteen thousand times to the minute. Several persons placed a finger against the eye, and against the nerves as they lie in the fossa mentioned. Not a single vessel required to be ligated. The jaw and tumor removed, attention was given to syringing the cavity.

A conclusion of the operation consisted in stitching the soft parts of the roof of the mouth to the tissues that had been dissected from the outside face of the jaw. When all was completed, the parts looked precisely as before knife and burr were used, the projection made by the tumor alone excepted.

The patient in the last-described case remained in the ward just two weeks. Neither the eye nor its envelope showed the slightest expression of irritation as the result of the burring.

FIBROID TUMOR OF UTERUS— HYPODERMIC INJECTIONS OF ERGOTIN—CURE.

BY F. H. MILLIKEN, M.D.

ON October 4, 1880, I was called to see Mrs. B., who was said to be bleeding profusely. The following brief history I obtained the next day:

Octoroon; æt. 25; married; four children; two miscarriages; menstruated when 15 years of age; had no trouble with any of her labors. First miscarriage (one and one-half month) was after the second child. No bad effects

were left after this accident. The second miscarriage (two months) was after the last child, in August, 1880. Four months previous to this last miscarriage the patient complained of symptoms indicating pressure on the rectum and bladder, dragging pains in the pelvis, pain in back, frequent but unnecessary calls to empty the bladder and rectum, dysmenorrhœa, and metrorrhagia, together with the nervous symptoms of uterine trouble.

I found the woman lying in a mass of coagulated blood, and blood was still flowing from the vagina. The pulse was rapid and weak, tongue pale and flabby, and the body bathed in cold sweat.

On examination, the vagina was found full of clots. These being turned out, the os was found somewhat open. Learning at this time of the last miscarriage, and she having no cause to believe she was pregnant, I passed my finger with some difficulty through the os until it was arrested by a hard resisting body which was attached to the uterine wall. The uterus was retroflexed, and a tumor could readily be felt in the posterior cul-de-sac of the vagina. The woman had little or no pain, but was very nervous about her condition, frequently asking me if there was any danger of death. I gave ergot, $\mathfrak{z}\text{i}$, and gallic acid, gr. xx, and by means of Davidson's syringe injected hot water and vinegar (equal parts) against the os. This I kept up for about ten minutes. The bleeding had stopped soon after using the injection. The vagina was tamponed with strips of linen soaked in vinegar, and a T-bandage applied to retain it. Three bricks were placed under the foot of the bed. Two teaspoonfuls of whisky were given; repeated in twenty minutes. Ergot $\mathfrak{z}\text{i}$, gallic acid gr. x, to be given every three hours through the night, with directions to look for bleeding.

October 5.—Patient slept well after twelve o'clock, and was not disturbed to give medicine. Ate some breakfast, and felt comfortable but weak. The pulse was stronger, and the body warm. The tampon was removed and found to have very little blood on it. Treatment continued, and, as she was still a little nervous, gave opium to quiet her. No more bleeding in the evening, and general condition improved. Satisfied from her history that I was not dealing with threatened abortion, the following afternoon I introduced a large sponge-tent, and allowed it to remain twenty-four hours. The os was well dilated on the following day, and the uterine cavity easily explored. The hard body was found to be a tumor embedded in the posterior wall of the uterus, and seemed to be about as large as a small egg or walnut, was dense and immovable, having no pedicle. I diagnosed a fibroid of the uterus, mural variety. Since that time I have concluded that it must have been submucous, with a broad base.

I decided to try Hildebrandt's treatment by

hypodermic injections of ergotin, but, objections being raised, gave fluid extract of ergot by the mouth, $\mathfrak{z}\text{i}$ t. d. This was continued for a week, when, symptoms of gastric irritation being complained of, I stopped the ergot for three days, and then again ordered its continuance. At the end of the fourth day of this treatment there was a grayish, bloody, offensive discharge, mixed with shreds of tissue, or, as the attendant said, "meat." Vaginal injections of carbolic acid and water, teaspoonful to the pint, were used twice in the day. The discharge continued until the nineteenth day of treatment, when it ceased. The ergot was continued two days longer. After waiting several days I dilated the os, now firmly contracted, and could find nothing in the original site of the tumor. The cavity of the uterus, which at first measured three and one-half inches, now measured two and three-quarter inches.

I saw this woman one month later, and learned that she never felt better. Chancing to see her a short time since, I found that she suffered no more from painful menstruation, metrorrhagia, or leucorrhœa, but that her periods were regular, and she considered herself a healthy woman.

PHILADELPHIA, 3614 WALNUT STREET.

A CASE OF SEVERE CONCUSSION OF THE BRAIN SIMULATING FRACTURE OF THE BASE OF THE SKULL—RECOVERY.

BY JAS. HENDRIE LLOYD, M.D.,

West Philadelphia.

ON Thanksgiving Day, November 24, 1881, William H., a blacksmith by trade, while engaged in painting the side of a house, fell from a ladder about twenty-five feet to a pavement below, and sustained the following injuries. He struck his head in his descent twice against the house-wall, and landed upon the side of his head and left shoulder. When carried home he was completely unconscious. Blood was running from his nose and left ear, and, as was afterwards found, his left clavicle was broken near its acromial end. He was first seen by the writer, in company with Dr. M. B. Musser, about twenty-four hours after the accident. The brain-symptoms at that time, and for several days, were very grave; unconsciousness continued, though not complete, as the eye became very slightly sensitive; clotted blood was in the nose and left auditory meatus; the pulse was abnormally slow,—about 54; the skin was pale and cold; the pupils dilated. Considering the height from which

the patient fell, the manner and frequency with which he had struck his head, and the severity of the symptoms, it was thought highly probable that a fracture existed at the base of the skull, and a very guarded prognosis was given. It may be observed that but one prominent, though not constant, symptom of fracture was wanting,—the absence of cerebro-spinal fluid from the discharge from the ear.

From the third day the patient's condition began slowly to amend. He regained some degree of consciousness, and his pulse and skin improved; the discharge from his nose and ear, which had been slight after the first day, stopped. He became, however, very restless, and at times delirious; he had much pain in his head, and was at times so unmanageable that no dressing could be kept on his clavicle. The presence of meningitis was thus suggested. On the sixth day there was some convergent strabismus. There was no paralysis, and the patient had control of his bladder and rectum. For about two weeks the case continued with varying prospects. It was seen at last, however, that he was gradually improving: he became more docile, and did not exhibit the petulant and maudlin disposition which for a while had characterized him. In the third week he one day complained of double vision, which was but transient. At the end of a month he was allowed to sit up at times, his nurse had been dismissed, and he has since regained apparently his complete health.

The case was treated with pot. iod. and bromid. and ex. ergot. fluid. internally, and fly-blisters at the forehead and at the base of the skull. The ergot was given at the signs of possible meningitis. Great attention was given also by a trained nurse to keeping the patient quiet. The fractured clavicle has united with slight deformity, owing to the restlessness of the patient during the first two weeks.

This case, which was at first most unpromising, illustrates some points of interest in the diagnosis and prognosis of severe injuries to the skull or its contents. The patient has done so well, after so much damage, that we hope he may also escape the more remote effects, such as abscess, chronic cerebritis, or epileptic seizures, which do undoubtedly come back sometimes to the unfortunate victims of these accidents.

INFLUENCE OF LOCOMOTIVES, ETC., ON MALARIA.

BY W. S. KING,

Surgeon U. S. A.

BELIEF in the existence of malaria and a recognition of its baneful effects are wide-spread. In the selection, by any one, of a residence, when the design is to secure a permanent home, almost the first question asked is the one relating to the presence or absence of malaria in that locality, showing that even the laity are beginning to study the phenomena of malarial poisoning. Everything, therefore, which has an unmistakable influence in limiting its development or lessening the number of persons affected with malarial fever is a matter of interest to all.

My object in offering these considerations at this time is to call the attention of the profession to the possible effect which the arrival and departure of so many locomotives, with their attendant trains, in such great numbers, at all hours of the day and night, in the vicinity of our towns and cities, may have in the dispersion or annihilation of malarial influence. I do not remember to have seen in my reading any allusion to the effect of such agencies on malaria.

Many years ago, while thinking over the subject of malaria and endeavoring to account for the non-occurrence of its effects in localities where every condition seemed to be furnished for the exhibition of its deleterious influence, it was suggested to my mind that possibly their immunity was secured by the means above suggested. The whole matter had escaped my memory, but was recalled whilst I was engaged, a short time since, in selecting a place of residence for my family, some of whom have suffered greatly from frequent attacks of intermittent fever. During my search for a healthy residence my attention was called to West Philadelphia, especially the neighborhood of the New York and Pennsylvania Depot, where several hundred locomotives, with their trains attached, arrive and depart at short intervals during the day and night. To any one acquainted with the locality, it would appear that the propinquity of the Schuylkill River lowlands would offer unusually favorable conditions for the development of malaria. As there is reason to believe

that malaria consists of low organisms, and the putrefaction of vegetable substances furnishes the habitat, how can we explain the exemption from malarial affections in those exposed in any other way than that the miasma is so much diluted, or in some way influenced, as to be harmless? If we consider the continual passing along through the infected districts of heated locomotives, rarefying the air, and by warm upward currents creating a constant atmospheric disturbance, the heat being sufficient to destroy miasmatic germs, the currents of air produced by trains moving with great velocity displacing the air, we can be at no loss to account for the constant dissipation of the miasma as it arises from the banks of the river, as well as its immediate dilution by the surrounding pure air rushing in from all directions.

I have written all I designed in support of this theory by barely suggesting it, and will only add that the exemption of that part of Philadelphia in the vicinity I have referred to is a fact fully believed by persons who have long resided there, and so represented by them to others as to cause quite a boom in building, selling, and renting houses in that locality the past summer and winter. I shall be glad if some of the profession who are so situated as to be able themselves to verify or disprove, in some measure at least, the views expressed in this paper, can be induced to give to the public all they may know bearing on this subject. I shall then have accomplished all I desired.

PHILADELPHIA, January, 1882.

A CASE OF MATERNAL IMPRESSIONS.

BY WM. T. TAYLOR, M.D.

IN the November number of the *Philadelphia Medical Times* for 1876 there is a communication on "Maternal Impressions affecting the Fœtus" which I read before the Philadelphia County Medical Society; and I have recently met with a case confirming my views therein expressed.

Mrs. McV. was delivered on November 30, 1881, of a female child, upon whose brow was a nœvus or varicose aneurism, which projected out between the eyes to the size of a cherry, and assumed a purplish hue whenever the child cried.

I inquired of the mother if she had been frightened during her pregnancy. She replied, "No," but she told me that *her own mother* had a cancerous tumor on her brow between the eyes, which Dr. Willard Parker, of New York, was treating; and that she had visited her in the early part of her pregnancy, when she was frequently looking at this tumor with painful anxiety, and was "much worried about it."

This certainly had some effect on the unborn babe, or why should this nœvus have occurred in that locality? for the babe is perfect in every other respect.

I am removing it by pressure with the half of a leaden bullet.

1324 NORTH FIFTEENTH ST., JANUARY, 1882.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINICAL SERVICE OF JOHN ASHHURST, JR., M.D., PROFESSOR OF CLINICAL SURGERY IN THE UNIVERSITY OF PENNSYLVANIA, DECEMBER 3, 1881.

Reported by WILLIAM H. MORRISON, M.D.

NERVE STRETCHING—STRETCHING OF THE MUSCULO-CUTANEOUS, MEDIAN, ULNAR, INTERNAL CUTANEOUS, LESSER INTERNAL CUTANEOUS, AND MUSCULO-SPIRAL NERVES FOR TRAUMATIC NEURALGIA OF THE FORE-ARM AND HAND.

GENTLEMEN,—Before stating what I propose to do in the case of this man, who is a patient of Prof. Wood, by whom I have been asked to take charge of him, let me read his history as obtained by the Medical Registrar, Dr. Hughes. T. H., white; age 33; born in Scotland; came to this country in 1868; by occupation a sailor; moderate drinker; uses tobacco moderately; has had gonorrhœa three times; never had syphilis; family history indefinite; has had several slight attacks of rheumatism; otherwise healthy. On January 26, 1881, while walking on deck, he was struck by a heavy sea, which carried him about twenty feet and dashed him against the deck. He was rendered insensible, and remained so for ten minutes. When he regained consciousness he had some pain in the neck and shoulder, which continued steadily for two months. Since then this pain has been better, and now only appears after exertion.

Shortly after the accident the left hand became swollen, and remained so for four months. Two months after the accident the left arm was swollen for three days.

After the accident he noticed that the left eye could not be opened widely. The sight was impaired, but has improved. At the same time he had extreme hyperæsthesia over the left side of the face and trunk. This has grown less marked.

Five months after the injury pains appeared in the forearm and hand. These were of a paroxysmal character, and became very intense. The pain has diminished, but is still severe.

Present condition: slight ptosis and impairment of sight on the left side; some pain in the neck and shoulder after exercise. Paroxysmal dull pain in the left forearm and hand, worse on the back of the hand and in the little finger. It varies in its seat. The muscles of the shoulder, arm, and forearm are wasted and powerless. There is slight sensation in the arm, but none in the forearm or hand. On touching the left side of the face and trunk, he complains of pain in the hand. The pain is aggravated by pressing on a lump at the end of the sternum, and by pressing on the spinous process of the fourth dorsal vertebra.

I intend to-day to perform the operation of nerve-stretching, to try and relieve the neuralgic pain in the left arm.

I have had occasion to perform this operation several times. I once stretched the musculo-spiral nerve above the elbow for traumatic neuralgia, but with only temporary benefit. The pain was entirely relieved for some weeks. It then returned, and I excised a portion of the nerve. The pain did not again return, but there was, of course, paralysis of the muscles supplied by the nerve.

In another instance I stretched the median nerve. This was a case of traumatic neuralgia in a girl, following the introduction of a needle into the hand. Although the needle was removed, severe neuralgic pain followed. She was entirely relieved, there having been no recurrence of the pain, although more than a year has elapsed since the operation.

I have also employed nerve-stretching in a case of tetanus, without, however, doing the least good. In tetanus, when you can localize the lesion and the affected nerve, there is reason to think that the operation may, in a certain proportion of cases, do good. The operation does no harm: even if a motor nerve is stretched, it does not produce paralysis. In the case

to which I have alluded, tetanus followed a tooth-wound of the thumb, and although I operated within twenty-four or forty-eight hours, stretching both the median and musculo-spiral nerves, the rapidity of the spasms was not even diminished, and I cannot say that the operation did the least good. The patient died a few hours later. This operation has been practised in idiopathic neuralgia; but it is rather more difficult to understand how it should do good in these cases than in cases of traumatic neuralgia.

The theory of nerve-stretching is, that as a result of an injury, or from other causes, there have been inflammation and adhesion of the nerve-sheath or nerve-fibrils, and that the stretching breaks up these adhesions and thus relieves the nerve-structure from pressure. Ollier and others have operated in cases of neuralgia following fracture and caused by the pressure of callus on a nerve. By cutting away the callus the pressure is removed, and the neuralgia disappears. Just as the removal of the callus relieves the external pressure, so breaking up the interstitial adhesions gives relief in these cases.

The operation has also been employed in locomotor ataxia and other affections of the nervous system, and in certain forms of skin disease, such as pemphigus and senile prurigo.

This is a case in which it seems probable that some benefit may be conferred. The neuralgia is evidently of traumatic origin. As a result of an injury there has occurred what is termed a concussion of the brachial plexus, the lesion being in reality one of laceration and contusion, followed by inflammatory changes.

There is a curious thing in regard to nerve-stretching: it not only acts upon the nerve stretched in both directions (upwards and downwards), but it has a central action, and also an action upon the nerve of the opposite side.

The operation which I purpose doing is not to stretch the brachial plexus itself, but the nerves which come off below the plexus. In order to reach the brachial plexus I should have to make a deep incision above the clavicle, in which situation the operation would be both difficult and dangerous, or I should have to go below the clavicle and cut through the pectoral muscles. I intend to make my incision in the axilla, just inside of the anterior fold,

very much as if I were going to tie the brachial artery just after it ceases to be axillary. I shall stretch the musculo-cutaneous, the median, the ulnar, the internal cutaneous, the lesser internal cutaneous, and the musculo-spiral nerves. I think that we may, by stretching these nerves, produce the same effect as by stretching the brachial plexus itself. We shall thus obtain, I think, a maximum benefit from a minimum injury. In any operation of doubtful result, where you are not certain of doing good, it is a good maxim to do no harm.

Operations of this kind have to be done deliberately, without any attempt at brilliancy. Brilliancy is out of place in operations on the nervous system.

[The operator then carefully dissected out the nerves to be stretched, and raised them on directors. Then, taking them one by one, he first drew them upwards, then downwards, and then, with a broad aneurism needle, he pulled the nerve forward, the amount of force employed being sufficient to lift the arm. In the case of the lesser internal cutaneous, or nerve of Wrisberg (a small nerve), the force employed was not so great.]

The advantage of stretching the nerve is that it does not cause paralysis, which of course always follows excision.

In the cases in which I have stretched the nerve, the pain at the seat of operation has been very intense for several days, sometimes weeks. The pain below is usually relieved at a comparatively early period.

[A drainage-tube was then introduced, the incision closed by the interrupted suture, and an olive-oil dressing applied.

The wound in this case healed readily, without much suffering after the first twenty-four hours. The patient was sent back to Dr. Wood's wards in about two weeks, when he was treated by passing a chemical galvanic current down the arm for two hours a day, the strength of the current being just such as to cause only slight pain. Before this treatment the chief gain in the symptoms seemed to be in the lessening of pain. Two weeks subsequently the muscles of the upper arm could be distinctly acted upon by moderately strong interrupted chemical currents, and the will was capable of producing some little motion of the muscle; the arm was also much easier. The patient states that sometimes, especially in the earlier

prolonged use of the electric current, violent pain was present for one or two hours after the *séance*, and the arm would then remain perfectly easy for the twenty-four hours.]

TRANSLATIONS.

FORCED ALIMENTATION IN PHTHISIS.—

Dr. Dujardin-Beaumetz, in the *Bulletin de Thérapeutique*, defines forced alimentation as "the application of the tube of Faucher to the alimentation of the sick." He employs a tube of at least one centimetre in diameter, of sufficient length to enter the cavity of the stomach, and surmounted by a funnel of a capacity of one litre. Having tried vaseline and glycerin as lubricants, he has discarded them, finding it sufficient to dip the extremity of the tube in lukewarm water before introduction. The nutritive mixture is composed of one hundred and fifty grammes of finely-chopped raw meat, four eggs, with the yellow and white combined, and one litre of milk. This mixture can be varied, according to circumstances, by the addition of sea-salt, cod-liver oil, or the peptones. Thus, when there is no diarrhoea and the patient supports this kind of alimentation well, he introduces three or four teaspoonfuls of cod-liver oil, then three of peptones, followed by the nutritive mixture and a portion of the milk, after which the tube is rinsed out by passing the remainder of the milk through it. When diarrhoea is present, the peptones and cod-liver oil are withheld, and subnitrate of bismuth is added. Dr. Debove employs a mixture somewhat larger in quantity, and containing ten eggs and two hundred grammes of meat, which he introduces in two portions at different times. Dr. Dujardin-Beaumetz, however, makes but one forced introduction daily, and that in the morning, upon an empty stomach, and finds it necessary in some cases of dyspepsia to wash out the stomach with Vichy water first. He gives four cases of phthisis from his wards, in three of which there was but little appetite, vomiting after each fit of coughing, and considerable emaciation, while in the fourth there had been diarrhoea for more than six months. The results were most encouraging. In the first three cases the nausea and febrile symptoms disappeared, the night-sweats ceased, the appetite returned, and weight

increased. In the fourth case the diarrhoea ceased, but emaciation and febrile symptoms persisted. The value of forced alimentation in phthisis seems to lie in the fact that under it the vomiting disappears, the dyspepsia is overcome, and emaciation is checked, while a much larger quantity of food than could otherwise be taken can be introduced in the stomach and digested.

The employment of the tube of Faucher is further suggested in the administration of cod-liver oil in large doses, and other disagreeable medicaments, also in the treatment of such conditions as albuminuria and extreme anæmia, which call for a direct action on the nutrition.—*Journal des Sciences Médicales*.

IODINE IN CROUPOUS PNEUMONIA.—Dr. Riebe, in advocating the employment of iodine internally in the treatment of croupous pneumonia, gives the following comparative table, showing the results of the treatment in the onset of the crisis in a number of cases treated by himself.

Crisis occurred—	Iodine Treatment, 37 cases.	Expectant, 22 cases.
On second day.....	in 8 per cent.	0 per cent.
" third ".....	in 16 "	0 "
" fourth ".....	in 21 "	9 "
" fifth ".....	in 8 "	9 "
" sixth ".....	in 11 "	40 "
" seventh ".....	in 16 "	13 "
" eighth ".....	in 11 "	18 "
" ninth ".....	in 5 "	4.5 "
Died.....	in 27 "	4.5 "

According to this table, the inflammatory process was considerably shortened, as under the iodine treatment the crisis occurred in fifty-three per cent. of the cases before the sixth day, while under expectant treatment it occurred in only eighteen per cent. during the same time.—*Deutsche Medicinische Wochenschrift*.

A CURIOUS CASE OF VENOUS DILATATION.—Lindner (*Cbl. f. Chir.*, No. 45, 1881; from *Deutsche Zeitschr. f. Chir.*) gives the case of a man 42 years of age, of a family in which many members had died of apoplexy, and who during the previous two or three months had suffered from a somewhat swollen face, rush of blood to the head, ringing in the right ear, giddiness on stooping, and severe burning in the face. Some days after the first examination, marked cyanosis of the face was observed, particularly on the right side.

The veins of the chest were also markedly enlarged and swollen; on the anterior border of the axilla was a convoluted mass of varicose veins; in the right supraclavicular fossa was a tumor the size of a hen's egg, from the upper border of which proceeded the enlarged jugular vein. Pressure upon this non-pulsatile tumor caused it to disappear, the patient experiencing at the same time a marked rushing sound in the ear. The tumor, which could be pushed deep down into the chest, rose again on the removal of pressure. On the left side a similar tumor could be perceived, about one-half the size of that just described.

Examination of the heart showed nothing abnormal, and the various other organs seemed to work well. Daily subcutaneous injections of ergot caused the tumors to rapidly disappear. They became flatter and harder, while the subjective symptoms disappeared at the same time. Since a central hindrance to circulation could be excluded, Lindner is inclined to regard the affection as a chronic phlebitis localizing itself in the neighborhood of the valves. The venous walls were so altered thereby that they gave way to the moderate pressure caused by the slight obstruction in the affected valves.

INFLUENCE OF ALCOHOL UPON DIGESTION.—Buchner (*Deutsches Archiv für Klin. Med.*, 1881, Bd. 29, p. 537), as the result of a series of elaborate researches upon this subject, concludes as follows:

1. Alcohol as such, up to the strength of ten per cent., has no influence upon artificial digestion.

2. Added to the amount of twenty per cent., it retards the process of artificial digestion.

3. In a higher percentage it puts an end to the digestive process.

4. Beer, when undiluted, stops the process of artificial digestion entirely; diluted with water it simply hinders it. Red and sweet wine have the same effect, while undiluted white wine simply retards without suspending the digestive process.

5. In the natural process of digestion beer appears to act unfavorably even when taken in small quantities; wine acts in the same way.

6. In disturbed conditions of absorption and secretion of the gastric mucous membrane this effect of alcoholic fluids proceeds even to complete interference with the digestive process.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 11, 1882.

EDITORIAL.

TWO SUBSTITUTES FOR ANTI-SEPTIC SPRAY.

THE Lister method of treating wounds involves the use of so much machinery and time that the attention of all persons practising major and minor surgery may well be called at present to two substances as possible substitutes for the carbolic spray,—to one, on account of the lavish use and praise of it which is now the fashion in Germany; to the other, because it seems to offer many advantages to him who would practise antiseptic surgery without the extra labor it has hitherto involved. The first of these drugs is iodoform; the second, borax. Iodoform has long been freely used as an application to venereal and other ulcerations in this country; but to-day in Germany ulcers foul and sweet, abscesses cold and hot, wounds ancient and fresh, are being treated with it in a way that has well been characterized by a prominent London medical journal as “almost reckless.” The mode of application is various. Sometimes the iodoform is sprinkled upon the surface and kept in position by means of a bandage. In one reported case of removal of abdominal tumor, it was put in the cavity, and the wound closed up, the patient rapidly convalescing. Again, it is introduced in the form of pencils made with cacao butter; or cotton-wool or patent lint is saturated with an ethereal solution of the iodoform. Whatever the mode of application, the idea is to apply the iodoform in large quantities, and close the dressing for some days in such a way that the contact of the drug with the surface shall be maintained.

When it is known that ounces of the

iodoform have thus been shut up in scooped-out or other carious cavities, and that the practice has found abundant imitation, it does not seem strange that several cases of fatal poisoning have been reported. In one instance, after an extended resection of the elbow on account of fungous synovitis, with intra-muscular abscesses, in a man 57 years of age, the cavity was packed with about two thousand grains of iodoform. The patient died on the fifth evening in deep coma, with symptoms of pulmonary oedema. The only anomalies of consequence revealed by the post-mortem were fatty degeneration of the heart, kidneys, and liver. A second case died under similar circumstances, with the same symptoms and lesions.

A. Höyges has found that in dogs and cats toxic doses of iodoform produce deep sleep, loss of reflex activity, death from paralytic asphyxia, and, as revealed by post-mortem examination, wide-spread fatty degeneration. It will be seen that these symptoms and lesions are those which occurred in Dr. Henry's cases: so that the fatal results were no doubt directly due to the iodoform. This unfortunate slaughter ought not to prevent the careful trial of iodoform as an antiseptic; but the experiments of Miculicz—an advocate of iodoform as an antiseptic—are calculated to throw some doubt upon the value of the drug. He mixed the powder with samples of various putrescible fluids, and stirred them up daily, and yet found that fermentative changes occurred unless a very large proportion of the drug was used.

It is probable that iodoform is changed to some extent upon the surface of the body into iodine, and as such greatly stimulates the part, since Höyges has found that in the body this alteration takes place after absorption, so that iodine is to be found in the urine of the patient who is taking iodoform.

An antiseptic remedy which has not as yet produced anywhere a *furor* compara-

ble to that which iodoform has caused in Germany, but which seems to promise much, is borax. The Teutonic nostril may tolerate, or even revel in, the peculiar odor of iodoform, but the American nasal organ revolts. So far as our experience goes, all attempts to deodorize iodoform end in failure: odors disappear, but the iodoform stench is eternal. A few weeks since, we received from a prominent pharmacist a phial containing deodorized iodoform, sent as a crowning triumph and proof of supernatural skill. In a weak moment we lifted the cork, for an instant only, and an airing of many hours was required to clear the office of the stench. Borax has no odor, in dose of three drachms by the mouth produces no sensible symptoms, unless it be gastric irritation, and has been given very freely to the lower mammals without causing serious results. According to the experiments of Dumas and Schnatzles, 0.75 per cent. of boracic acid is sufficient to prevent the production of bacteria in exposed animal liquids. Dr. William Greene, in New England, has made extensive use of the borax in practical surgery with asserted extraordinary success; and we would strongly urge upon such of our readers as have opportunity the trial of rarely-disturbed dry dressings with powdered borax freely used.

ANTI-VACCINATION.

MR. HENRY BERGH is a violent anti-vivisectionist and an ardent homœopath, and is therefore almost of necessity a man with a very impulsive heart and a very feeble intellect; but what excuse the editor of the *North American Review* has for printing his recent diatribe against vaccination we know not, unless he considered it worth while to sacrifice to an itching desire for notoriety the reputation of his journal as a vehicle for sober sense, and also the lives of some foolish readers. To amuse our readers, and to show what kind of intellect dwells in the

cranium of Mr. Bergh, we print the following extracts:

... "That hideous monstrosity, vaccination, was first introduced to the public on the 14th of May, 1796, by Dr. Edward Jenner, who originated it. . . .

"In the period of less than one hundred years that has elapsed since the introduction of this practice, millions upon millions of sound and healthy human beings have been inoculated with the most loathsome pestilence, doomed to carry to the grave bodies wasted by consumption or marred and deformed by scrofula, cancer, and innumerable other ills. What is worse, they have transmitted these diseases to posterity. . . .

"Now, the purpose of the writer is not only to convince the reader of the truth of this admission, but to go farther, and to prove that vaccination never has afforded, and never can afford, immunity from smallpox, and that the unnatural practices of so-called scientific physicians have simply resulted in changing the ruby stream of life into a filthy current, in comparison with which the foulest ditch-water is pure. . . .

"According to Dr. Spinzig, the eruptive character of smallpox is the outward manifestation of a process of decomposition of the blood, produced by a disproportionate quantity of urea. Hence this disease is, in fact, the effect of the reaction of urea on the blood. Normal blood, as we learn from the exhaustive experiments made by Goze and Feltz, contains not more than from .01 to .02 per cent. of urea, while in variolous blood the percentage is .08 or more. The specific action of urea on the blood consists in a deoxidation of the corpuscles. Hence smallpox is a phase of blood-poisoning. . . .

"The writer is himself an example of the utter futility of vaccination. In his youth he passed successfully through the loathsome process. Nevertheless, some years afterwards, he presented one of the most clearly defined cases of varioloid. According to Mr. William Jebb, of London, in his statement presented to the American Anti-Vaccination League, eighty per cent. of the mortality from smallpox comes from vaccinated cases.

"Thus, though it is proved by statistics that the loathsome practice is void even of a mitigating effect upon the progress of smallpox, nevertheless the dreadful work goes on of wilfully implanting in the healthy bodies of human beings the germs of disease, from which are developed scrofula, consumption, cancer, and by which the very continuance of our race on the earth is imperilled. Doubtless, in the estimation of that large portion of the public who are, through their intellectual sloth, the dupes of the medical profession, the writer's words will pass for the ravings of a lunatic when he affirms that the human race is gradually rotting away by reason of this deadly practice of vaccination. But so it is; and the process of decay is accelerated by the consumption of flesh that has been rendered unfit for human food, and actually poisonous, by the barbarous and unnatural treatment to which animals are subjected. . . .

"Prof. Simonds, of the Royal Veterinary College, Camden Town, England, states that in the course of his long experience he never saw a case of cowpox. Who ever heard, he asks, of bullpox? And if there be no bullpox, and yet cowpox really exists, it is an anomaly among zymotic diseases; for no other disease of that class is limited to one sex of a species."

DRS. H. C. WOOD AND FORMAD desire to know of the existence of an epidemic of malignant diphtheria, in order that

they may continue their research upon the nature of the diphtheritic poison. Dr. Formad will go to any locality within eight hundred miles of Philadelphia. Letters may be directed to the University of Pennsylvania.

LEADING ARTICLES.

APHASIA.

AS early as the beginning of the present century attempts were made to locate the speech-centre in some particular part of the brain, and while Gall* thought, from several cases in which he had made a post-mortem, that its seat was in the hemispheres of the cerebrum, Bouilland,† and, later, Marc Dax,‡ declared that disturbances of speech were remarkably often connected with lesions of the *left* hemisphere, and that it was there that "the memory of words" seemed to reside. But Broca§ was the first to locate its seat more precisely, and he not only demonstrated that the speech-centre was situated in the left third frontal convolution, but he contended also that the faculty of speech was one gradually acquired, and that the gray matter presiding over it was brought step by step to a full development on the *left* side in *right*-handed persons. Of the latter fact one case especially convinced him, which he has published in the work quoted,—that of a left-handed epileptic female, in whom it was discovered, after death, that the left frontal and median lobes were totally absent, but the right hemisphere normally developed. Since then many careful investigators have made further researches, and while Ferrier,|| Hitzig,¶ and others endeavored to localize anatomically more and more precisely this function of the brain, Kussmaul** looked at it rather from a philosophical stand-point, and tried to establish a minute subdivision and classification of all possible kinds of disturb-

ance of speech, without always, however, the desirable pathological proof. When studying this subject, we must not forget the difficulties which the investigator has to encounter. Experiments on animals are here necessarily out of the question; only by quasi-exclusion could they be of any assistance; and such morbid lesions in man are so rarely sufficiently circumscribed that but a very gradual advance can be possible in our knowledge of the precise seat of the memory of words. It is only by a skilful analysis of cases of which an exact history of the symptoms has been recorded, and of the very localized lesions of which a minute examination has been made, that we can slowly progress in this direction; and such cases are rare. These difficulties form one of the causes why aphasia has been so much the subject of philosophical theories. But, after long and patient labor, Wernicke†† has brought some order again into the chaos; and, while giving in the following mainly the result of his researches, we may say that we describe about all that at present is actually known of the seat of the speech-centre, or, in one word, of aphasia, and the truth of which has been sufficiently proven by pathological cases.

There are two centres in the brain for the function of speech, situated both, in right-handed persons, in the left hemisphere of the cerebrum. Of course we do not understand here by "speech" the articulation, the mere sound of the voice as produced by the different muscles of the larynx and buccal cavity, etc., the nervous centre for which resides in the olivary bodies of the medulla oblongata, and which, by training, may to a certain extent even be developed in animals (parrots, etc.); we mean the centre of language, the memory of words, that centre which employs the one for articulation simply as means for executing its orders. For this speech-centre there exist, as mentioned, two centres in the brain. First, the *sensory*, situated in the first temporal convolution, the cortical end of the acoustic paths,—the depository of words, as they are communicated to us by the spoken language, by talking. Deep into the white mass connected with this gyrus the origin of fibres of the auditory nerve has been traced. From this centre an associating path, the island of Reil, leads to Broca's

* Gall et Spurzheim, *Anat. et Physiol. du Système Nerveux*, Paris, 1810-19.

† *Traité de l'Encéphalite*, Paris, 1825, and in later papers of the same writer.

‡ *Lésions de la Moitié gauche de l'Encéphale*, etc., 1836.

§ *Sur le Siége de la Faculté de Langage*. *Bull. de la Soc. Anat.*, 1861.

|| *Localization of Diseases of the Brain*, London, 1879.

¶ *Ueber d. heutigen Stand d. Frage v. d. Localisation im Grossgehirn*, Volkmann's *Klin.*

** Kussmaul, *The Disturbances of Speech*, Ziemssen's *Cyclopaedia*, 1880, Vortr., No. 112.

†† *Lehrbuch der Gehirnkrankheiten*, Cassel, 1881.

centre, formerly alone taken into consideration, the lower third frontal convolution, which governs in the widest sense of the word the whole *motor* part of expression by words of speech.

Based upon the foregoing, Wernicke assumes four different forms of aphasia, in one of which every possible kind of morbid disturbance of speech must find its place:

a. Motor Aphasia, or Aphemia.—Here the motor centre is diseased. While the mobility of the muscles of speech is perfectly intact, patients are either not at all able to talk, or can say only a few syllables or words, but they understand everything spoken to them.

b. Conduction Aphasia.—Here the associating path is interrupted, the island of Reil diseased. The memory of words is preserved, understanding is perfect, but, while talking, wrong words are often used; certain words are mistaken for others.

c. Sensory Aphasia—Kussmaul's Word-Deafness.—The seat of the lesion here is the left first temporal convolution. The memory of words is intact, but words are frequently mistaken for others, and, while the faculty of hearing is perfectly preserved, the speech is not understood: *i.e.*, while the patient is fully able to hear the slightest noise, the sound of the voice, the words spoken to him have lost their significance, for his brain cannot perceive their meaning.

d. Total Aphasia.—Loss of all functions, with destruction of both centres.

To one of these forms every case of aphasia will necessarily have to belong. Concerning agraphia and alexia we are forced to assume other centres in intimate connection with the two main centres named above, each perhaps forming a special part of one of the latter. In the first case (agraphia) there must exist, with full preservation of the common mobility of the right arm and hand, an affection of the motor centre for the combination of the special movement of writing, while in the latter (alexia) we will have, without disturbance of common vision, disease of the sensory centre which acts as the receptacle for the image of the figures of the alphabet, etc. The latter centre will undoubtedly be found in connection with the cortical end of the optic nerve. That the main centres must also be closely connected with the centre for the tactile sense and the cortical motor centre is proved by the

fact that blind persons are able to write and read, and that born deaf-mutes not only learn to read and write but even to talk without being able to hear. There are deaf-mutes who themselves prove the connection of the optical and tactile paths with the speech-centre, because there are some deaf-mutes, as in the institution in Berlin, for instance, who understand the words spoken by simply looking at the lips of the speaker, and others who are able to do so by applying their hands either to the cheek or the back of the chest of the person talking. But as it is necessary to keep a very careful record of every symptom of such cases, and as the most minute dissections of them have to be made after death,—and how rare is it for such cases to fall into the hands of physicians who are able and have the time at their command to fulfil both conditions!—many years must elapse ere we may progress further in this direction and answer all the questions referred to.

The different forms of aphasia—the inability of the centres to perform their functions—can be brought about by all kinds of morbid processes. These affections may be only temporary in their character: in such case we will find their cause mostly in congestion, or in insufficient nutrition, or in an insufficient quantity of blood, as, for instance, in that form of aphasia which we observe in convalescents from grave diseases: here the prognosis is generally a favorable one. The same may be said of hysteria, epilepsy, and syphilis (here, however, only if the degeneration of the arteries is recognized and treated early enough) when acting as causes of aphasia. Cases due to softening of the brain or to abscess are, if not rapidly fatal, always of long duration, chronic, very little amenable to improvement, and usually connected with other symptoms on account of the further extension of the morbid process. Embolism in the branches of the left *arteria fossæ Sylvii* is a frequent cause, and in such cases aphasia and coma, without disturbance of motion, are the characteristic consequences of this disturbance of circulation. As an excellent illustration of temporary aphasia induced by passing disturbance of circulation, we will narrate the following case, which some years ago happened in the family of and was attended by the writer. A mentally very bright and physically well-developed girl, twelve

years of age, with no hereditary and no constitutional taint whatever, and whose nervous system also seemed in every respect well balanced, went, on a warm day in June, to a strawberry-festival in Fairmount Park. There, being left for a short time without supervision, she indulged with other young girls in the dangerous play of rope-jumping. Not to let her mother observe her excitement, she dipped her handkerchief into the cold water of a spring near by, and while heated applied it to her burning face. Shortly after she was brought in an unconscious state to her mother. While unconscious, the muscles of the right side of her face and of her right arm were in a continuous convulsive movement. Unconsciousness lasted about ten minutes; but on awakening out of the coma she presented the following remarkable symptoms. Temperature increased one degree (surface temperature of the left front part of the head not being taken); physical health seemingly otherwise not disturbed. But her face had the expression of an idiot: she evidently did not understand what was said to her, and could neither speak, read, nor write. She put her tongue out without difficulty, and there did not seem to be the slightest disturbance of motion or sensation. But she showed a ravenous appetite, and would eat raw potatoes and almost anything she could put her hands on, and show astonishment if prevented. Leeches were applied to her left temple, followed by the application of a bladder containing ice. About four hours after the attack—the face began gradually to lose its idiotic expression, and the patient evidently commenced to understand what was said to her. The following day she had so far improved that she again appeared perfectly natural in her actions, etc., but she could not talk, read, or write. I then proposed to take a first reader and commence spelling over again. It was remarkable to observe the rapid progress she made. Suffice it to say that within five or six days she had almost perfectly relearned the use of the words, and she could talk, read, and write nearly as well as formerly. But it was clear that she had to learn every word again before she was able to make use of it, and, though the re-awakening of the faculty was a remarkably quick one, the fact of the memory of words having been temporarily lost was indisputable. No symptom whatever since has

reminded the patient of this attack of passing congestion.

In conclusion, we may add that from the special form of an aphasia other diagnoses may be made also, as a case of Senator* proves, where he was able to locate an abscess at its exact seat in the left frontal lobe from the aphasic symptoms alone. But sometimes the lesion is in the white conducting and not in the cortical gray matter. Such are the cases of which it has been reported that, notwithstanding aphasic symptoms, no lesion had been found, because the convolutions alone had been examined. Considering the great difficulty of these examinations, however, such mistakes are excusable and cannot always be avoided.

HUGO ENGEL.

CONTAGION OF TUBERCULOSIS.

M. TOUSSAINT, Veterinary Professor of Physiology at Toulouse, acknowledges that lesions of a tuberculous appearance may follow the introduction of a foreign body—as a rag—in an animal. But this tuberculosis is “false.” It is not specific; it is not susceptible of transmission, like the true, by inoculation.

The contagion consists rather in an anatomical element than in a parasite like that of anthrax, chicken-cholera, and septicæmia.

He bases his results upon two hundred and twenty experiments. Animals were selected in which tuberculosis is developed with the most surety and in the least time,—rabbits, pigs, and cats. The first is usually chosen, for the same reason, for the experiments in anthrax, although the disease rarely is met with spontaneously in these animals. Tuberculosis kills the pig as surely as anthrax the rabbit. He believes the susceptibility of the human species to be greater; and if children, or even adults, could be inoculated, few would escape.

Are the rabbit and pig more susceptible to tuberculosis than man? A malady which kills one-fifth of a species is indeed a malady of such species. Tuberculosis is a malady of man; and since it exists in the form of germs in a large number of foods that we eat daily, is it too bold to say that

* Zur Diagnostik der Hirnerkrankungen, Berlin. Klin. Wochenschrift, 1879.

conditions of hygiene sufficient to prevent this enormous mortality should be exacted? Tuberculosis in man is the same as in cattle, and, when inoculated, produces identical lesions, capable of being transmitted to other animals, and reproducing itself in constantly the same form. It showed identical characters whether he produced it by giving in food or by inoculation into the blood. Numerous pathologists assert that they produce exactly similar lesions by inoculation of inert substances; but this tuberculosis, given so easily, cannot be reproduced by the inoculation of tubercles so obtained.

The histological lesions by which it was believed tuberculosis could be characterized are not sufficient. A true tuberculosis, capable of being inoculated indefinitely, cannot be determined by the lesions alone. The tuberculosis called experimental is a thing artificial. True tuberculosis, whether taken from man, cattle, pigs, or rabbits, is capable of reproduction in an indefinite series, constantly with absolutely identical characters. Moreover, it becomes more energetic and its course more rapid the more often it is inoculated.

In numerous series of experiments it required four to five months for tuberculosis to kill the first animals; the fifth died in two months. General infection taking place in thirty-five days, animals inoculated from one killed in the first series will often die before those of the former. Especially by tuberculosis produced by cultivation is the augmentation of virulence demonstrated.

The serum from a caseous ganglion of a cat dead from cultivated tuberculosis was inoculated in six rabbits and a pig. The latter died in fifty-seven days, and one rabbit in sixty-eight. At this time the animals of the fifth series are much more sick than those of the third.

The fifth cultivation of tuberculosis is much more abundant and rapid than the first, and the tenth than the fifth.

R. S. HUIDEKOPER, M.D.

SINCE 1867 no fewer than 2800 houses in Edinburgh that were pronounced unfit to live in have been pulled down; more than \$2,500,000 was at the same time spent in city improvements. The result of this on the death-rate is interesting and instructive. In 1863 it was 26 in a thousand; now it is 20 in a thousand.

CORRESPONDENCE.

LONDON LETTER.

THE concluding remarks of my last letter suggest a topic for this epistle which is not without interest. The patient who illustrated so brilliantly the good effects of the addition of strychnia to digitalis, where the latter alone disagreed, has been gathered to his fathers. After ten days of most gratifying progress, he had further congestion of the lungs, which soon turned the direction from upwards to downwards. Every bad indication returned, and in a few more days the battle was over. So soon as the new trouble was engrafted upon the pre-existing embarrassment in the respiratory organs, the breathing became more rapid, as a matter of course; the veins became more engorged, and with that the bulk of urine fell; albumen reappeared, and the oedema in the legs mounted. Finally the inevitable death from exhaustion of the respiratory centre followed. Now, this untoward termination to a case promising so well suggests some reflections not altogether of the pleasantest character. To find cases of the greatest clinical and therapeutic interest suddenly changing their aspect, and from a bright, cheery outlook passing into the gloom of the tomb, reflects upon the treatment of such cases in a sinister manner. It is an unsatisfactory fact that so many cases of grave organic mischief will rally so promisingly and yet fail to fulfil the promise so deplorably. Against this can be placed the opposite fact of a number maintaining their ground and improving steadily under almost precisely similar circumstances and under identical measures. The point of interest lies in ascertaining in what the difference consists. To this, I think, an answer may be given which is not devoid of interest. Much lies in the directions given; more in how thoroughly they are carried out. Acquaintance with sickness, with the requirements of sick persons, does not fall to the lot of all. Fortunately for them, many persons have had no necessity to become familiar with such matters. But such ignorance is often a dire misfortune when the time of trial comes. The sick person's relations are wishful beyond expression to do all that lies in their power for the stricken one. They do not lack zeal,—indeed, are full of it,—but they are lamentably deficient in the requisite knowledge. It is as if the crew of a ship abandoned it, and the vessel was left to the passengers to do what they could with the craft. There might be a few of them familiar with seamanship; and, if so, all goes fairly well. But suppose such is not the case: what sort of efforts would these unskilled sailors make? Why, in all human probability, a whole series of blunders,—blunders which they might or might not ever discover. If discovered, and seen to be

blunders, they might be rectified. If not discovered, why, of course nothing could be done. Just the same with an ordinary family when one of their members is stricken down by acute disease or by an accident. They are all eager to be useful, but their willingness, unfortunately, is "unskilled labor." The training which experience alone can give is lacking; their well-meant attempts may become simply murderous. Such volunteers will stimulate the fever patient while the pyrexia is running high, instead of waiting for the defervescence, when stimulants may be essential to establishment of convalescence, just as in earlier life in general practice it was common in labors, and especially in primiparæ, when the first stage was progressing slowly, to find some well-intentioned but foolish neighbor taking every opportunity of giving the patient alcohol in a cup of tea, encouraging her to make voluntary efforts at a time when such efforts were useless, with the result that so much of the body-force was thrown away, and so was not available when the time for voluntary effort to be useful arrived, and consequently the case had to be terminated by the forceps. Of course such a busybody is beyond the reach of arguments or anything based on common sense, and is equally not to be taught anything by the lessons of experience, which are simply thrown away upon a person of this kind. Such is "the ignorance which vaunteth itself as knowledge;" and a very troublesome factor it is in all calculations in life. Or some one chooses to question the wisdom of a certain line of management advised and acted upon in the interests of the patient, and will have it modified. Of course persistence, if sufficiently followed out, usually gets its own way, as it did with the unjust judge, and attains results far different from what are anticipated. As an instance in point, I may refer to a case which was recently under my own care.

A clergyman of great earnestness and energy presented himself some nine months ago with very decided bulging of the aorta on both sides, extending along the carotids somewhat. The dilated aorta could be felt distinctly pulsating away at the sternal notch; there was aortic regurgitation, with an hypertrophied but not yet massive ventricle. The condition was undoubtedly a serious one. The age was fifty-five, and the arteries were free from any tendency to atheroma. There was also a splendid family history; consequently there seemed a prospect of inducing a restoration of the aortic walls to something like their normal size, if the blood-pressure within them could be reduced. If this could be achieved, and the distending force of the blood-current limited, then the natural resilience of the elastic arterial wall might cause much reduction of the distention. To attain this was to do away with any risk of rupture of the aneurismal walls. Consequently ab-

solute rest was insisted upon, and a dietary which contained little albuminoid matter was carefully laid down, in accordance with the observation of the late Prof. Parkes. A little iodide of potassium and sulphate of soda were prescribed. This line was followed strictly, with very satisfactory results. The pressure of the dilated aortic arch upon the recurrent laryngeal nerve gave rise to much troublesome cough. This was quickly affected by the treatment. The tension within the dilated aorta was reduced, and with it the pressure on the nerve. The patient and his friends were delighted. Soon a distinct reduction in the bulging at the root of the neck on each side was to be observed; the aortic pulsations could no longer be felt by the finger-tip inserted in the sternal notch.

So far, so good. The patient and his wife were unable to express their gratitude for the improvement so brought about. He had been told by one of our greatest physicians that he must never think of preaching again. Yet he did preach again. On the left side the pulsation had all but disappeared.

Now for the other side of the picture. Being a healthy, vigorous man in every other respect except these few inches of the aorta and its root, the regimen was distasteful to the subjective sensations. When the brain was more freely flooded with blood, he felt "better," more vigorous, more endowed with a sense of energy. I explained to him repeatedly how being "kept low" was the very essence of the treatment. When the fear of death at an early period dominated him and his wife, they were obedient and followed out a plan whose good effects were unmistakable; they were grateful,—would do anything they were told; but when the improvement became pronounced and the immediate danger of death was obviated, their mental attitude changed. Might not the patient have a more liberal dietary? I reiterated my reasons for pursuing the line that had been adopted. A week or two more, the couple appeared again. The lady tried hard to pin me down to a definite statement about the question of preaching, but without explaining why she was so persistent. It was clear she had some game on, and would not show her hand. When the *ruse* failed, out came her grievance. Might not her husband have a more liberal dietary,—"something to keep him up?" Not with my sanction, I explained. My views on dietary were so peculiar, she observed. On being asked if they had not been attended with good results in the present case, she admitted they had; for, of course, the results were so patent no denial was possible. But she was evidently determined to have her own way, and I was equally determined to let her have her head. The case had won me no little credit; but its future progress was clearly more important to them than to me. Further, it is no part of my creed or practice to insist

unduly upon my advice being followed. It is clearly one's duty to give the best advice one can; but there is no call upon one to see that it is followed,—to force it upon the patient. To take it is clearly the business of the patients and their friends. If after an experience of no doubtful character they choose deliberately to act upon their own responsibility, that is their business. A full explanation had been given again and again. So they departed,—she with the erect carriage of a female who was influenced by convictions; he ruefully, as if not equally under a sustaining conviction. What the result is has, so far, not been divulged to me. There is no moral doubt that, with the best intentions in the world, the devoted wife is doing her best to increase the blood-pressure within that impaired aortic arch, by feeding him upon sustaining victuals, with the immediate result of his feeling better for the time; for the increased blood-pressure fills the cerebral arteries and floods the brain. But the result is not one difficult to calculate. The aorta will soon yield again, and will ultimately rupture, just as an old boiler bursts when the pressure of the steam within it is high enough. Probably when some irretrievable mischief has been wrought, the good lady will return to me in an agony of contrition and remorse, when a sense of blood-guiltiness forces itself upon her as the result of her wilfulness. Possibly enough, too, some practitioner of antiquated views may be aiding and abetting her efforts to blow up the arterial walls by giving him digitalis, on the obsolete view of its being a cardiac sedative. Anyhow, a promising case is probably being spoiled, and a very valuable life being abbreviated unnecessarily,—because why? Because some officious individuals have been volunteering pernicious advice by talking about what they do not understand. And as my directions about the dietary were received with hesitation and acted upon somewhat unwillingly, the seed fell on ground ready to receive it. So much the worse for the patient, in all probability.

This is somewhat a divergence from the exact subject-matter of this letter, and yet not without some bearing thereupon,—viz., when the danger-promontory has been rounded successfully, then some one wants to take the tiller out of the hand of the pilot, or perhaps, thinking danger past, wishes to show his—or more probably her—cleverness. At other times, however, there is no such desire; but the carefulness impressed by the impending danger of death is relaxed, maybe unconsciously, in a sense of waxing security which leads to untoward results. This is the more disastrous in cases where the vital powers are undermined by well-established organic disease which pares down the margin on each side of the normal line, within which the health may oscillate without death necessarily following. Unwitting of this, something is

done or permitted which would be devoid of any sinister influence upon a healthy person, but which is potent for evil in those who are the subjects of grave organic disease. When the vessels of the pulmonic circulation—which are large, compared with other capillaries in the body—are already distended by a block at the mitral orifice, cold seems readily to produce congestion of the bases of the lungs. Already the respiration has been embarrassed by the excess of blood in the lungs, and the thoracic space is diminished by so much; and this addition, little felt under other circumstances, is now very serious,—approaching that last straw which broke the camel's back. There is no reserve of strength to meet the new difficulty, all the body-reserves having been called out to meet the existing demand. It is like two contending armies, one of which has called out all its reserves, while the other has its reserves in hand: victory hangs in the balance; the reserves are called in, and settle the conflict. If the other side had also had reserves available to meet the new factor, then the result might have been otherwise. So in the struggle with disease. If the patient possess a reserve of force, some new complication may be successfully withstood; if this have already been called into action, there is no force available to meet the new element, and consequently the battle is lost. Several instances have come under my notice recently in men who commanded one's respect for their character, as well as were nice patients to be brought into contact with, whose deaths have impressed me much. One was a man who had many excellent qualities, but who had taken a great deal of alcohol in excess of what was good for him. His legs were swollen, his liver was enlarged, and his heart was dilated. The heart was badly nourished, because the liver failed to elaborate the albuminoid matters of the food, and the urine was laden with lithates. He improved under treatment steadily and satisfactorily, until his only complaint was that he "could not take a four-mile walk." Despite the most careful reiterated instructions as to taking care of himself, this patient last spring stood about watching the painters decorate his house. The consequence was that pneumonia of the right lower lobe followed. The old symptoms began to return; they deepened in gravity; the block in the pulmonary circulation was felt in the liver, which again increased in size; the venous engorgement lessened the renal secretion, while the œdema returned and mounted. The progress was once more downward, and this time everything failed to arrest the descent. The vigorous system struggled grandly in a losing fight, and death was occasioned by a clot from an inflamed vein plugging the pulmonary artery. With proper care and due attention to orders, that patient ought to have been living still.

Then, again, another case of decided "heart-

starvation," where the symptoms of the fatty heart were closely simulated. Under appropriate treatment and a carefully-regulated dietary, this patient had regained much vigor, and could get about capably without much shortness of breath on moderate exertion. He changed his residence into a growing and fashionable suburb. Unfortunately, the drains were in a very indifferent condition, and the smell from them was perceptible. The other inmates of the house were upset. He was confined to bed. Then came one or two close, sultry days. The effluvium overpowered him. He was sick, felt prostrated; yet his pulse kept up, and the heart never faltered. He bade his wife "good-night," as usual, and fell into a calm sleep. In an hour she was awakened by his struggles. He was black in the face and choking, evidently from a clot forming in the heart. Before she had time to summon assistance, he was dead. Now, here the patient, when doing very satisfactorily indeed, was killed by drains. What only made the other and strong members of the family feel indisposed was fatal to him. Why? Because his powers were all but exhausted. He possessed no reserves of body-force to meet the new demand, and succumbed. Had he not been subjected to this additional demand upon him, he might have gone on for a considerable period, an invalid, truly, but still with much to live for.

The contemplation of these various cases, the natural feeling of chagrin at failure, heightened by the personal feeling of respect for the individuals, have recently caused me to feel very keenly that the subject of the management of convalescence is one which must occupy a definite space in our text-books, and be generally recognized as important. Certainly in the next edition of my "Practitioner's Hand-Book of Treatment" a chapter will be devoted thereto, in the conviction that many valuable lives are closed somewhat prematurely by some oversight of imprudence during the convalescence which follows upon some severe illness; because the fact is not fully recognized that here life hangs by a slender thread, readily snapped by what would scarcely be felt by persons in health.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

SOCIETY FOR MEDICAL IMPROVEMENT, BOSTON.

CASES OF CONTRACTION OF THE HIP-JOINT.

DR. E. H. BRADFORD read a paper on this subject, in which he said, "It has been abundantly proved in surgical practice that obstinate flexion of the femur can be corrected by osteotomy, by osteoclasis, by *brisement forcé*; in certain cases by tenotomy,

followed by gradual or immediate straightening. It is also known that in the early stage of hip disease, before the tissues have become contracted, simple rest in bed will allow the limb to correct itself, or, under an anæsthetic, the limb can easily be placed in position."

After the disease has lasted for some time, a contraction, which has been aptly termed "adapted shortening," takes place; and under anæsthesia the limb cannot be replaced by force alone. "In one cadaver he had an opportunity of examining a contraction of this sort, and found that perfect correction could not be attained (even though no bony union nor firm fibrous adhesions existed) even after the skin was torn and some of the muscles were divided.

"As is well known, the acetabulum becomes widened and the head of the femur absorbed under the reflex muscular pressure, which crowds the femur backwards and upwards, there being no muscle to pull the limb downwards. This produces a position of pseudo-dislocation, which, with contraction of adjacent tissues, constitutes the deformity."

Dr. Bradford then cited cases in which treatment did not include strictly operative interference. Of these, two are here reproduced.

R. W., 6 years old; parentage healthy; no history of previous illness; no phthisis in the family; previous to hip-attack boy had a slight fall. Hip-trouble first noticed in summer of 1880. Was treated by various regular physicians. During the autumn was three months under the care of Regina Dal Cin, the Italian bone-setter, who poulticed the limb and pulled it by hand. The mother thought the boy improved, the flexed limb becoming less so. A few months later, however, two abscesses formed. These were incised by family physician. They discharged for several months, then the sinuses healed. The limb again began to "draw up," and by September 6, 1881, the thigh was flexed at a right angle to the axis of sacrum. No swelling nor tenderness about hip. Head of trochanter was not above Nélaton's line. Any attempt at extension of thigh caused arching of lumbar spine. Patient suffered no pain. Limb was but slightly adducted. The boy was etherized and limb forcibly pulled. Tenotomy was not done. But little was gained in this way. An extension splint was applied, leg being kept elevated from plane of bed to a degree nearly equal to that of the deformity. Folded pillow was placed under knee, and extension by weight and pulley (seven pounds) attached to end of splint. Patient quite restless night following operation. Complained of pain, referred to knee. Slight muscular twitching noticed when splint was removed, followed by pain, also referred to knee. This lasted but twenty-four hours. At the end of three days limb was within twenty degrees of axis of body. At the end of a week leg had

been brought into line with axis of body. Boy was allowed to rise and go about with crutches, and elevated shoe applied to sound foot, wearing extension splint on affected limb. No swelling of hip, tenderness, heat, nor redness resulted, and patient remained in all ways as well as before the stretching. At present date, four months later, there is complete absence of deformity; no difference in length of limbs; boy able to stand on affected limb, but, by way of protection against jar or possible recurrence of deformity, is directed to wear the splint.

E. A., young woman of 22 years. First suffered from hip-disease at 3 years of age, trouble being of pronounced type. Abscesses formed, and their sinuses discharged for many years. At beginning of later treatment thigh was flexed at an angle of 70° with axis of sacrum. The arm somewhat adducted. Trochanter two inches above Nélaton's line. Cicatrices of two sinuses observed about hip, and no motion was to be detected. On this limb patient used a shoe raised five inches, and even with this could barely touch floor with heel. Deformity so marked that it appeared improbable that any benefit could be derived from non-operative treatment, and nothing would have been attempted but for the confidence of Dr. C. P. Putnam that the conditions could be improved.

Patient was placed in bed, and a ham-splint, secured by means of adhesive plaster and silicate bandage, applied to prevent flexion of knee. After patient had become accustomed to this position, she was allowed, a few days later, to go about freely, using crutches. Neither traction nor friction was used, correction of deformity being left entirely to weight of the limb. Naturally, this power acted only while patient was standing. The limb, therefore, was much of the time without any correcting force.

At the end of four months the ham-splint was replaced by a removable splint, which answered same purpose,—*i.e.*, prevention of flexion at knee. At the end of six months the deformity had been overcome to such an extent that with shoe elevated only three inches patient is able to touch heel to ground. During treatment has experienced a slight amount of transitory pain. At present time is able to walk, using one crutch to steady herself, but able to bear full weight upon affected limb.

Dr. Bradford, by means of several additional cases for which we have not space, successfully illustrated the following proposition: "In cases in which the deformity has not been of long standing, even when of a pronounced type, a light extension applied without regard to the line of deformity is sufficient to gain the result."

In reference to Dr. Bradford's paper, Dr. C. P. Putnam said he had not realized the amount of improvement in the case of the young woman. He considered the essential

feature of the success was the increased ease in walking.

Dr. Post quoted a case which had been in the hands of Dal Cin, under whose manipulation it was said the leg had been brought down to the same length as the sound limb, and that the high shoe had been discarded. Dr. Taylor, of New York, examined the case, and found hip-joint immovable and limb flexed at nearly a right angle. The leg could be brought down to a level with the other, but only at the expense of a curve in the lumbar vertebræ, the patient supposing the motion to be in hip-joint.

Dr. Graham detailed his success in deep manipulation of stiff joints. A warm bath is followed by the quieting influence of gentle stroking of the joints and by deep manipulation. Careful passive motion is then tried, by means of which an opinion may be formed of amount of force necessary. After violent passive motion, deep kneading and moderately tight bandage increase patient's comfort. Involuntary muscular tension caused by affected joints often becomes a habit, and keeps joint in an irritable condition. In some cases patients should be taught to relax muscles by voluntary effort. Later, passive motion of gradually increased force, accompanied by resistance on part of patient, may be used together with massage. Violent rubbing, adopted by bone-setters, begets increased contraction and increases the evil.

UNUSUAL CASE OF TYPHOID.

Dr. W. C. B. Fifield informally reported an unusual case of typhoid. When patient (a young man) had recovered sufficiently to move about his room, he experienced a relapse. On arising from this, having reached a similar stage of convalescence, a second relapse occurred on sixty-ninth day. Dr. Fifield called on seventy-third day; found pulse nearly uncountable; temperature 105° F.; discharges involuntary; there was sub-sultus tendinum; belly very tympanitic, covered with rash, suggesting typhus, though too distinct; patient unconscious. Musk suppositories ameliorated symptoms. Seventy-sixth day, albumen appeared in urine. Musk replaced by small doses of morphia. Observed that whenever a large alvine discharge occurred, temperature fell a little. Seventy-eighth day, patient became violently delirious. About eightieth day, condition was so grave that he was not expected to live through the night. Leaving the house, physician was suddenly recalled, to find patient had fallen into convulsions. A new convulsion appeared as he re-entered room, during which an immense dejection took place. At this juncture temperature fell at such a rate that recovery was predicted, and actually followed. The result suggested that in cases following scarlet fever in which the urine is albuminous, a strong cathartic action brought about by one, two,

or three drops of croton oil will be likely to restore the patient to health.

UMBILICAL HEMORRHAGE.

In an infant 3 days old the umbilical cord dropped off, and a very severe hemorrhage resulted. The child could neither nurse nor cry without causing a jet of blood. A ligature being applied, it slipped and became useless. Dr. Fifield thought of using pins and then ligating under them; but the child seemed to be a "bleeder," and had *nævi* in various localities of the body. The proposal was therefore abandoned, it being thought unsafe. The expedient adopted and described by Thomas Day then suggested itself. This procedure consists in pouring a mixture of gypsum into the navel. Dr. Fifield procured plaster of Paris, prepared it, adding salt to make it set quickly, poured it gradually into the umbilicus, increasing the thickness until it had assumed a mound-like form. The bleeding ceased. After a few days the cast fell off, bringing with it the remnant of the cord. The child has continued well.

Dr. W. P. Bolles reported the case of a man of 70, who, thirty minutes before his visit, appeared to be well. He found the patient almost moribund. He was livid, breathed with extreme difficulty, and apparently was suffocating. It was difficult to catch any sound from the lungs because of noise in the throat; but a respiratory murmur was finally heard. Dr. Bolles went at once for stimulants, nitrite of amyl, etc. On his return the patient was dead.

Autopsy.—From symptoms before death, it was thought that a heart-clot might have existed. Examining the heart, not only was no clot found, but the organ was empty of blood. Neither lung was collapsed. On one side of the chest the pleura had disappeared by old adhesions. Incising the lung of the other side, serum issued with great profusion. The kidneys were found to be in an advanced stage of granular degeneration. The case, then, was one of acute pulmonary oedema.

On being asked why he did not bleed the patient, Dr. Bolles replied that the patient was so near death when he first saw him that bleeding was out of the question, and that nitrite of amyl would have done harm.

Dr. J. C. Warren mentioned that a French physician treated a similar case successfully with emetics, and thought such a course might have succeeded here. Dr. Bolles, however, had no time for the procedure, even if it had occurred to him.

ASTHMA IN A CHILD OF TWO YEARS.

Dr. Bolles found the child sitting with its hands on its knees, lifting its shoulders as an old man would in order to aid respiration. He had never before seen a similar case. An emetic relieved this attack. Leaving the child in a most comfortable condition, he was suddenly recalled, to find it had fallen back into

the dorsal position, barely breathing; respirations 60 in the minute and shallow; expiration groaning; fingers and toes livid, the patient evidently dying. A sponge wet with ether was placed over the face. At first there was next to no respiration; then the child began to cry a little. The etherization was continued until anæsthesia became complete. The child slept calmly, and woke free from asthma. The case is supposed to be unusually rare.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, DECEMBER 8, 1881.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Organs from a case of acute tuberculosis. Exhibited by Dr. H. M. FISHER.

HELEN L., æt. 4. Father is a negro, mother a mulatto. Mother appears delicate; but no history of consumption in the family of either parent can be obtained. Child had always been considered healthy, and does not appear to have suffered from any of the usual diseases of childhood. I saw the case first November 12. About six weeks previous to my first visit, the mother noticed that the child was losing her spirits and appetite, was languid and listless, and complained of some abdominal pain. She noticed at the same time that the child's skin was hot and dry. No hæmoptysis occurred, no cough was noticed at this time, and there were no night-sweats. There had been no vomiting, no pain in the head was complained of, and no convulsions at any time occurred. The child had one small loose passage daily. She slept much during the day, and was rather restless at night. There had been at the same time progressive emaciation.

Upon examination, I found that the child was thin, but not markedly emaciated; the skin was dry, and on the legs and thighs there was considerable epidermic exfoliation. The abdomen was moderately distended with gas. Tongue presented strawberry appearance from enlarged papillæ. Pulse, 120; temperature, 102½°. Respiration perhaps somewhat quickened, but not notably so, and there seemed to be little or no dyspnoea. I was able to detect no dulness on percussion of the chest, nothing abnormal in the respiratory murmur, and no adventitious sounds. The child was very apathetic, and could not be induced to answer questions; but there was nothing that seemed to point to cerebral lesion.

November 23, eleven days from date of my first visit, I saw the child again. I was informed that for about a week a slight cough had been noticed, and that the emaciation had been rapidly progressing. This was indeed marked. The fever persisted (101½°). Respiration about 40, but no marked dyspnoea. A careful examination of the lungs

revealed some impairment of percussion resonance over the upper lobes of both lungs; but I could not convince myself of any impairment of resonance over the lower two-thirds of the chest.

Prolonged expiration and a few fine râles were heard in the right supra-scapular fossa, but over the rest of the lungs I detected nothing abnormal.

Death occurred three days later, without the manifestation of further symptoms.

Brain not examined.

Post-mortem examination, forty-two hours after death.—Rigor mortis has disappeared. Both lungs appear freely movable, and no adhesions can anywhere be detected. The pleural cavity appears to contain a normal amount of serum. Pericardial cavity contains also a normal amount of light straw-colored serum. Left ventricle dilated, and contains black blood and a soft black clot. The left ventricular wall appears thin, and the entire heart-muscle is flabby. The right ventricle contains also black partially coagulated blood. The orifices appear to be of normal size, and no valvular lesion can be detected. Bronchial glands enlarged, but not cheesy. The external surface of both lungs presents a general dusky red hue, with some yellowish-white mottling. This "marbling" of the tissue is most pronounced in the lower third of both lungs. The tissue of both lungs crepitates freely on pressure. The lungs do not float perfectly when placed in water. Upon section, a moderate quantity of frothy mucus exudes. The cut surfaces of both lungs present numerous fine grayish-white granulations. These appear to be somewhat more numerous in the upper than in the lower portions, and the left lower lobe is tolerably free from them.

Abdominal cavity.—The bladder is found to be largely distended with urine, its upper surface extending fully four inches above the symphysis. The intestines are considerably distended with flatus, but present—at least on their external surface—no evidences of tubercular granulations, and there are no adhesions or other indications of peritonitis. The spleen is much enlarged and of a mahogany-red color. Upon section, its cut surface is found to be granular. With tinct. iodinii the reaction indicative of amyloid degeneration is not produced.

Both kidneys are pale and flabby, and in both the capsule is easily removed without tearing the organ. Upon section, the cortical portion is found to be pale and opaque, swollen and slightly mottled, and in some portions of the section numerous grayish-white nodules are seen, none of which are larger than a pin's head.

The pancreas appears normal. I neglected to open the stomach and intestines, but externally I could see no evidence of inflammatory changes.

The liver is greatly enlarged, its right lobe extending one-half inch to the left of the xiphoid cartilage and about three inches below the ribs, while the left lobe extends fully four inches to the left of the xiphoid cartilage and about two and one-half inches below the lower margin of the ribs on the left side. The tissue of the liver is pale and opaque, and has a doughy feel. A few whitish nodules, similar to those in the kidney, were seen in the liver.

With the advice and assistance of Dr. Longstreth, I made the microscopical examination.

Lungs.—Tubercular aggregations are very numerous, but very few of these present central cheesy degeneration, being pretty uniformly stained from the centre to the periphery. The portions of lung-tissue adjacent to the tubercular granulations show catarrhal inflammatory changes, while other portions of the lung are nearly free from them.

On the other hand, the lung-tissue is seen to be hepaticized in many places between nearly adjacent tubercles.

The *liver* presents numerous small tubercular masses in an early stage of formation, and the liver-cells show in places moderate fatty infiltration; but the most marked feature is the general atrophic condition of the cells. The tubercular masses are found chiefly in the interlobular connective tissue. There are but few of these masses within the lobules themselves.

Spleen.—None of the sections show well-defined tubercular nodules; but there are numerous aggregations of bright stained nuclear bodies scattered through the organ, and the elements of which these are composed entirely resemble the elements of newly-growing tubercle. The Malpighian bodies present no alteration, neither do the fibrous trabeculae, except in portions occupied by the newly-growing tissue.

Kidneys.—In one section of the kidney, from cortex to pyramid, six tubercular nodules were counted. The largest and most fully developed nodules are in the region of the base of the pyramid. None of the tubercular nodules show any limiting membrane, but they pass off gradually into the surrounding tissue. The tubules which pass through the growth are not entirely destroyed: the capillaries, however, are pressed upon and obstructed. There are areas of the cortex where there is infiltration of nuclei. The endothelium of the tubuli is for the most part granular, but not sufficiently so to obscure the nucleus. There are no fatty changes present. The glomeruli and the arterioles are unchanged.

Cancer of the pancreas, duodenum, and mesenteric glands.—*Secondary lymphatic deposit*.—*Pericardial adhesions*. Exhibited by Dr. J. H. MUSSER.

That the patient from whom the specimens before you were taken was suffering from

cancer of internal organs was quite evident during his life. The exact localization of the deposits was not so easily determined. It was decided, however, that the disease involved the stomach, the mesenteric glands, the pancreas, the lymphatics of the neck and axilla of the left side, and probably the lungs.

The age of the patient (52 years), the rapid and extreme emaciation and loss of strength, the duration of the illness, the absence of high temperature, the occurrence of growths within the abdomen, with secondary lymphatic enlargement, although there was an absence of cancer-predisposition, pointed clearly to malignant disease. The patient was sick for three years. Dyspepsia, with poor appetite, epigastric fulness, flatulence, and acidity, dated from the beginning. Only six months prior to these observations did he fail in strength and lose flesh, and for a year previous did he suffer from pain in the back and the hypochondriac and epigastric regions.

We noted, on the 7th of June, 1881, that there was fulness of the epigastric and right hypochondriac regions and the upper half of the umbilical region, with marked bulging of the lower half of the latter region extending to the left towards the flank. An impulse was plainly seen in these areas. The abdominal veins were not enlarged. The surface-temperature was not raised. The epigastric and hypochondriac areas were hard and tender on palpation, but there was no defined tumor. The umbilical prominence extended transversely from an inch to the right of the median line, two inches to the left, and from the umbilicus to a point an inch below. It seemed to be a continuation of the upper prominence; but on percussion there was a distinct tympanitic note between the dulness of the upper and the flatness of the lower mass. Along the course of the aorta a slight systolic murmur was noted. The gastric symptoms and the evidences revealed by palpation and percussion led us to diagnose cancer of the stomach. The separation of the lower mass from the stomach, as shown by percussion, the position and size of it, the pressure on the aorta, and the œdema of the extremities, with extreme emaciation without obstruction in the intestinal tract, pointed to involvement of the mesenteric and lumbar lymphatic glands. During the time he was under observation he was fed on cream, and the fœces examined microscopically. They were found to contain large amounts of fat, along with epithelium, granular matter, cholesterin crystals, and food-débris. On account of the fatty stools the pancreas was thought to be involved. The post-mortem partially confirmed our ideas of the condition of the abdomen.

Inspection of the abdomen showed that the physical signs above detailed were due, in the epigastric and right hypochondriac region, to disease of the duodenum and pancreas; in the umbilical region, to mesenteric disease.

The abdominal contents were matted together. The stomach was dilated and congested. Four inches of the duodenum beyond the pylorus was dilated so that its cavity would contain a base-ball. The walls were thickened, the internal surface ragged and ulcerated. The lower surface was adherent to the transverse colon, and ulceration caused a communication at this point. The omentum was not diseased. The mesenteric glands were all enormously enlarged, some being three inches in diameter, were white, of firm consistence, softened in the centres. The lumbar lymphatics were enlarged, matted together, and adherent to the aorta, limiting its calibre. The pancreas was also the seat of disease. The large intestine was fixed between the duodenal mass and the mesenteric mass, and caused the tympanitic note at that point. The duodenal ulceration showed the fallacy of our diagnosis of pancreatic disease by the fatty stools, and explained the diarrhœa. The liver was very fatty, and weighed four pounds eight ounces.

It was further noted that the glands of the lower part of the left side of the neck were enlarged and firm, as were also those of the axilla. From their pressure the left arm was œdematous. The veins over the inner portion of the shoulder and the upper portion of the anterior surface of the chest were greatly enlarged. There was marked fulness of the first and second intercostal spaces, distinct pulsation of the subclavian, transmitting a distinct impulse to the thorax from the clavicle to the third rib. Nothing abnormal on auscultation and percussion. This negative evidence caused us to exclude lung-involvement, although the fulness and impulse with lymphatic involvement caused us to think it probable. After death the lungs were found healthy above; at the left base a nodule of disease an inch square was found.

The other clinical facts of the case, which are of some interest, are as follows.

The patient had had frequent attacks of inflammatory rheumatism, was a hard drinker, exposed to great hardship, and had much care and trouble. Inspection of the heart showed retracted impulse in the fifth interspace inside of the nipple and in the epigastrium. The percussion-area was normal, the lungs encroaching properly. On auscultation at the xiphoid cartilage, a rough, high-pitched, short systolic murmur was heard. On account of the other interesting phenomena, the condition of the heart was neglected, and only the above noted. At the autopsy there were found pericardial adhesions of the anterior surface of the heart with the parietal pericardium. There was no valve-lesion.

The patient remained under observation ten days, when death took place from exhaustion, hastened by an uncontrollable diarrhœa. During life the blood was examined by Dr. Cathcart, and 2,255,000 red cells were

found in a cubic millimetre, and 1 white to 225 red.

Sections for microscopical examination were made by Dr. Dunn. Both the duodenal and glandular deposits were characteristic of scirrhus.

Fibrous stricture of the duodenum—Unusual tendency to the development of connective tissue throughout the body. Exhibited by Dr. J. H. MUSSER.

The facts of the case briefly are as follows.

A female; 55 years of age; married; living a life of great mental anxiety and distress, having had a large family and a cruel, worthless husband; of good habits; until the present illness had always been in good health. I attended the patient from the 23d of March, 1881, until July 11 of the same year. Early in the spring of the previous year she became weak and delicate, lost flesh, had no energy, and lost her appetite. During the summer and fall she remained about the same. During the winter she suffered from a weight and fulness in the stomach, flatulence and acidity, and constipation. Lost flesh and strength, and became sallow and anæmic. Six weeks prior to my attendance, vomiting began and continued. Dr. Girvin saw her a week before I did, and placed her on bismuth subnit. and lacto-peptine, and a milk diet. The vomiting always occurred several hours after meals, and the ejecta were composed of a dark, thin, sour-smelling fluid and the food eaten. Under the above treatment the vomiting ceased, and the patient gained flesh and strength. There were no evidences of a tumor, and, on account of the improvement, cancer was excluded. The general improvement continued during April, but she never regained her appetite. The tongue had a peculiar appearance, such as I had never seen: it was perfectly clean and smooth,—looked as if it had been shaven, apparently being denuded of epithelium and papillæ. In May she suffered from fever of an intermittent character, daily paroxysms preceded by chills or chilliness. Quinia would prevent a paroxysm partially, but did not cure them, and, on account of gastric symptoms, was stopped. The fever disappeared apparently without treatment. During this month the vomiting returned, and again she lost flesh and strength. June 1, I detected a tumor to the right of and a little above the umbilicus. It was about an inch broad and three inches in length, extending, as deep palpation showed, across the vertebral column. It was firm and slightly movable, raised by the aortic pulsation. There was no thrill, nor any pain. Temperature of abdomen was not increased; skin remained in folds when pinched; abdomen slightly tympanitic. The vomiting and constipation continued during the month, and on the 18th black vomit occurred. About this time she passed by stool a hollow cylinder, a cast of the intestine about six inches long, composed

of mucus and epithelium. As the disease progressed, the abdomen became scaphoid, and the tumor was readily made out, while in the left hypochondriac and lumbar regions the dilated stomach, filled with food or gas, could be readily detected. From the persistent vomiting, the character of the ejecta, and the constipation, it was evident there was obstruction.

These symptoms continued, thrush developed along the intestinal tract, exhaustion became greater, and she died July 11 of starvation.

Dr. W. E. HUGHES made the post-mortem for me. Examination, eighteen hours after death. I noted as follows.

Rigor mortis well marked. Extremely emaciated. On opening abdomen, the organs were found in their normal position. The omentum was contracted to the width of two inches, very much thickened, but there were no nodules in it, and it was almost devoid of fat. It was mostly composed of fibrous tissue, bundles of which could be readily seen. In its meshes some fat was deposited. The stomach was dilated. Three inches of the pyloric end of the duodenum was found to be of a pearl-white color, shiny, and very firm to the touch. Longitudinal section proved this to be due to a growth which so encroached upon the calibre of the gut as to cause almost complete obstruction an inch and a half from the pylorus, a fine probe only being allowed to pass. The disease extended to, and for an inch invaded, the stomach-walls. The mucous membrane was congested and bathed with mucus. It was not ulcerated. On transverse section of the gut, four layers of tissue were readily discerned with the naked eye: a layer of the peritoneum, opaque and thickened; next a yellowish-white layer, appearing as if made up of parallel vertical columns, and being continuous with the muscular layer of the stomach, which was hypertrophied towards the pylorus. The third layer was of a fibrous appearance, pearly white, and very dense. Where the walls were thickest the mucous membrane of the duodenum could not be distinguished from the diseased layer: in fact, it was replaced by the mass, the membrane running up to and merging into it on either side. Over the remainder of the mass and the gut the mucous membrane was normal and was the fourth layer. Little columns or strizæ of fibrous tissue could be seen extending from the third through the second yellow layer to the first or peritoneal layer, and under the peritoneum there were several little masses. The heart was normal and unusually small; the aorta of small calibre, with a few spots of atheroma. At the apex of the left lung a nodule of fibroid inflammation was found. That lung was bound down by recent pleural adhesions. The kidneys were small, firm, with a slightly adherent capsule and a narrowed cortical portion.

On microscopical examination, the duodenal disease was found to be due to a hypertrophy of the submucous connective tissue. The omentum was made up of an increase of the same tissue. The lung-nodule was composed of connective tissue; the kidneys were cirrhotic. It is of extreme interest to note in this case the general tendency to the proliferation of connective tissue, and also the peculiar change in the omentum. The pulmonary, pleural, duodenal, and renal proliferation can be imagined to be due to more or less long-continued irritation; the cause of the change in the omentum is without explanation, in my mind. From the observations of Bowditch and others, the size of the heart and aorta would have precluded a diagnosis of carcinoma, even without microscopical examination of the duodenum.

Dr. F. P. HENRY remarked that a point of decided interest in the specimens presented was the coincidence of contracted kidneys with a small non-hypertrophied heart. On a previous occasion Dr. Henry had presented to the Society a specimen of extremely contracted kidney from a case of phthisis, in which the heart was small and flabby, and had observed that to the production of cardiac hypertrophy an obstruction to the circulation was alone insufficient, but that, in addition, a fair state of general nutrition was essential. The case just reported illustrated this point with still greater emphasis.

In regard to the diagnosis of cancer when the physical signs of its presence are obscure, Dr. Henry remarked that he had made some observations with the hæmacytometer which convinced him that this instrument might be of decided value in this connection. In several cases of extreme cancerous cachexia he had found that the number of blood-cells per cubic millimetre ranged between two and three millions, an amount far in excess of what he had found in cases of pernicious anæmia. To quote his own words, used elsewhere in connection with the subject of blood-cell counting, "As every febrile disease has its temperature range, so the different forms of anæmia are distinguished by the degree of oligocythæmia to which they give rise."

Ruptured ovarian cyst—Death from peritonitis. Exhibited by Dr. M. LONGSTRETH, for Dr. J. G. LEE.

Emma Curnell; white; female; æt. 34 years; height, 5 feet 2 inches; born in London; married some sixteen years; died November 1, 1881, at 5.20 P.M. Had no children, except one fifteen years ago. Always menstruated regularly, and was always in tolerably good health, except that she complained occasionally of a pain in her right side.

Two months ago she began menstruating, and continued passing blood from the womb for somewhat over five weeks, which caused her to go to one of the dispensaries in this city. What was done for her relief there I

was unable to ascertain; but on October 25 she was obliged to take to her bed, with severe pains in the abdomen, and was seen on October 29 by Dr. James Simpson, who found her "with a pulse of 84, skin cold and covered with a cold, clammy sweat, bowels very loose, vomiting incessantly, and she was constantly tossing herself from side to side of the bed, moaning with pain. Soreness on pressure over the abdomen; no tympany." Dr. Simpson was told that she had been in the same condition for five days, nothing having been done for her relief. Dr. Simpson directed turpentine stupes to the abdomen, morphia for the relief of pain, and that after she was relieved of the pain she was to take a pill of acetate of lead and a small quantity of opium, to check the looseness of the bowels. The doctor called on the 31st of October, and found her apparently much better. Vomiting checked; bowels stopped; belly soft but tender; no tympanitic condition. He directed tinct. cinchona and carefully restricted diet. He was again called in November 1, in the early part of the afternoon, and "found her pulseless, cold, but partially conscious; pupils normal, responding to light, but she was evidently suffering excruciating pain in the lower part of the abdomen," and moaned when he made the lightest pressure anywhere about the abdomen; "the belly was tympanitic." The family told him she had been suffering all the morning from pain. She died two hours later.

Post-mortem, twenty-one hours after death.—Body in ice. Rigor mortis partially developed. No external marks of violence. Purging from mouth. Abdomen considerably distended. No marks of violence on genitals. Upper portion of vagina containing some sanguineous matter. Peritoneal cavity contained about a pint of yellowish liquid. Omentum attached to intestines and bladder by recent inflammatory adhesions. Intestines firmly matted together by fresh inflammatory adhesions. Peritoneal walls, convex surface of liver, and under surface of diaphragm covered with freshly-effused lymph. The uterus was about the ordinary size of a multiparous organ, and its anterior surface seemed to be normal. On the right side, behind the broad ligament, extending from the pelvic wall to about the middle of the posterior surface of the uterus, was a cyst about three inches in diameter, tightly adherent to the uterus. On separating the margins of the adhesions, they appear as if cut with a knife. The greater portion of the cyst-wall is sufficiently thin to be translucent, while the portions about the ovary are firm, rigid, and at places one-half inch in thickness. Nearly the whole of the peritoneal surface is covered with inflammatory lymph, uterus, ovaries, etc. The lining of the cyst is smooth. Lying at the junction of the cyst and the uterus is an oval body, apparently continuous with the cyst, which on section

showed several small openings resembling enlarged ovarian follicles. No very distinct trace of the Fallopian tube could be made out, though a rounded cord-like body passed from the upper corner of the uterus along the upper surface of the cyst, turning to reach the position of the ovary. The ovary and Fallopian tube of the left side are firmly matted together by old inflammatory adhesions. The os uteri is dilated; the neck and cavity of the cervix was ulcerated or inflamed. The uterine cavity appears normal. No probe can be passed into right Fallopian tube.

Heart, lungs, liver, kidneys, spleen, and other organs healthy. Head was not opened.

Cause of death—Peritonitis (shock), result of a rupture of an ovarian cyst.

Horseshoe kidney. Exhibited by Dr. H. F.

FORMAD.

Dr. FORMAD said that he simply showed the specimen on account of its rarity, as the organ was—although of abnormal form—healthy. The connecting bond between the two lateral halves was also unusually thick.

Dr. SHAKESPEARE said that this was the second specimen which had been shown before this Society during the past year. Both specimens were removed from patients dying at Blockley.

Sarcoma of the capsule of the lachrymal gland.

Exhibited by Dr. CARL SEILER, for Dr. KEYSER.

The exhibitor explained that he had no history to present except the bare facts that Dr. Keyser had removed the primary tumor May 22, 1881, and a recurrent growth October 21, 1881. Dr. Fenton, however, was present, who doubtless could give some additional points of interest.

Dr. FENTON said that he had nothing special to add, except that when first seen no visual trouble was complained of, but that latterly the eye became displaced by the growth. Until quite recently no pain was complained of. Dr. Fenton did not think that the whole of the growth was removed at the first operation. At present there were signs of a recidive since the operation of October 22, 1881.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A SPECIAL conversational meeting of the Society was held at the hall of the College of Physicians, Philadelphia, November 16, 1881, Dr. Albert H. Smith, President, in the chair.

COMPOUND DISLOCATION OF SEMILUNAR BONE.

Dr. M. O'Hara presented a case of successful treatment of compound dislocation of the semilunar bone, with preservation of motion at the wrist (see page 301).

Dr. H. H. Smith said that it was a remark-

able result: it was apparently a case for amputation; at least, a stiff wrist might have been expected, but there was scarcely any.

Dr. C. B. Nancrede, in referring to the mechanism of this dislocation, said that its direction and the readiness with which it obtained was due to the obliquity of its surfaces of articulation with the cuneiform and scaphoid, and the wedge form of the bone, its base presenting upward and backward. In a fall upon the palm, when the first row of carpal bones is forced into the socket formed by the radius and the triangular fibro-cartilage, the configuration of the os lunare above described, aided by the obliquity of the articular surface of the radius, *compels* the upward and backward displacement of the bone. This is the direction of displacement in all cases, Dr. Nancrede believed. In view of the rarity of displacement of single carpal bones, he would recall the fact that he had reported a case last winter in which the scaphoid had been partially rotated, and its outer portion displaced *forward*.

SYPHILITIC NECROSIS OF BASE OF THE SKULL.

Dr. James E. Garretson exhibited a patient recently subjected to operation for necrosis of the base of the skull, of which he gave the following history. Nine months ago the man came to him with exposure of the alveolar process of the left superior maxillary bone. After waiting in vain for the separation of a sequester, all of the diseased structure was removed, a surgical engine being used. Shortly afterwards an ulcer formed, exposing the palatine process, which process was cut away back to the palate bone. Later an ulcer attacked the soft palate, and, extending to the pharynx, was followed by superficial necrosis of what was inferred to be the basilar process of the occipital bone. A sequester formed, which, on removal, was found to be part of the vomer and vaginal processes of the sphenoid bone. The patient was placed upon constitutional treatment, and did well.

In speaking of the treatment of syphilitic ulceration, Dr. Garretson incidentally remarked that nothing in his experience had been found to equal the tincture of iodine as a local application.

OPERATION FOR FACIAL NEURALGIA.

Dr. Garretson also exhibited the results after an operation for excision of the infra-orbital nerve for the relief of neuralgia. The operation had been once before performed unsuccessfully. On looking into the patient's mouth, he had detected caries of the alveolar process opposite the first molar tooth, apparently extending into the antrum of Highmore. Two weeks afterwards a second carious point appeared in the neighborhood of the bicuspid tooth. An eye-tooth was found broken and carious: it was also ex-

tracted. The case was treated according to the observed indications, but without permanent relief of the neuralgia. A careful examination was made, but without discovering further cause, for he took it for granted that such a persistent condition implied some lesion. He finally concluded that the resected nerve had rejoined, and he made another section, with complete relief up to the hour of showing the patient. The point of special interest in this case is the restoration of the divided nerve, which took place inside of two months. In referring to the possible remote causes of neuralgia he mentioned a case of a lady who suffered with pain in a bicuspid tooth, which was extracted without relief. Finally it was discovered that there was an ulceration within the uterus, which being treated, the neuralgia subsided.

Dr. R. J. Levis said that he was especially interested in the case, as he had performed the first operation by simple section of the nerve, and his design was, in case this was not sufficient, to go farther back and remove the trunk of the nerve from the sphenopalatine foramen. He had on six occasions cut the trunk of the inferior dental nerve: four cases were total failures, two complained of great sensibility about the peripheral distribution of the nerve.

INTESTINAL CALCULI.

Dr. A. Schapringer presented specimens of intestinal calculus discharged from an abscess in the right inguinal region of a boy. He was also suffering with fibroid phthisis. It was noticed that he had no cough, although he had all the other symptoms of the disease of which he shortly afterwards died. Subsequently the reporter had read of a case of phthisis in which the cough disappeared on the occurrence of an inguinal abscess.

Dr. J. T. Eskridge thought that the flow of pus from the abscess relieved the cough by reducing the discharge from the lung, in the same manner as some physicians still use the seton and issue in consumptives. In cases of anal fistula complicating phthisis the patient does better while the discharge is free; when it is stopped he feels worse.

In regard to the concretions it is difficult to decide, in the absence of a post-mortem examination, whether they came from the intestine or from the vermiform appendix. The bodies found in the latter situation are generally dried mucus, epithelium, and fecal matter.

Dr. E. T. Bruen mentioned a case of intestinal obstruction in which the indications seemed to point to the presence of a gall-stone in the ileum, which had started from the gall-bladder four months before. Afterwards the stone was passed by the rectum. Da Costa mentions a case in which nine months were passed in the transit of a gall-stone from the gall-bladder to the rectum.

SUICIDE BY TAKING PARIS GREEN.

Dr. Packard related the following case:

On September 9, 1881, at Cape May, New Jersey, he was called at 1.30 P.M. to see a lady who had been staying there for several months under the care of a nurse, and who was said to have taken a quantity of Paris green. She had been long under treatment for general nervous disorder, and had been sent to the sea-side for her health. The nurse stated that the poison had been taken while she (the nurse) was at her breakfast, at about 8.15 A.M.

On being questioned, the patient avowed that she had swallowed some Paris green because she was tired of life. But there was no trace of irritation about the mouth or throat, and no pain or tenderness in the abdomen; there was pallor and leakiness of the skin, the hands and feet were cold and bluish, and the pulse was rapid and thready. Some fluid in a basin and on a towel was shown, which she was said to have vomited; and in the commode there was, besides feces, a quantity of green substance, said to have been passed along with them.

The nurse asserted that the patient's general condition was not worse than it had been, and, in view of the hysterical symptoms previously manifested, there was ground for doubt whether the patient had not been deceiving her attendants in order to frighten them.

Under the usual tests the green stains on the towel showed the presence of copper and arsenic.

Dr. P., in spite of his doubt as to the real source of the symptoms, gave at once the whites of six eggs, and ordered ammonia, brandy, milk, and the continuance of external applications of heat, which had been already made. The same was repeated about two hours after. No other symptoms showed themselves, but the prostration steadily increased until about 11 P.M., when death took place quietly and painlessly.

By order of the coroner, a post-mortem examination was made on the 11th, thirty-eight hours after death, with the assistance of Dr. James E. Mecray. The thorax and abdomen only were examined.

Body emaciated. Stomach full of brownish grumous liquid; intestines not very full, but containing here and there masses of fecal matter and a good deal of mucus. In a portion of the latter was found an undissolved fragment of Paris green, proved by the usual tests to contain arsenic and copper. Other portions were also found, one of which, submitted to Prof. J. J. Reese, was analyzed by him with the same result.

The right kidney was intensely congested, the left slightly so; bladder entirely empty.

The uterus was very large and heavy, much congested, and anteverted. It contained a soft clot of blood; in the cervix was a mass of pearl-like, firm, glandular enlargements,

each about the size of a pea, closely pressed together. Both ovaries seemed converted into masses of soft clot.

The liver, spleen, and thoracic organs were normal.

The interest of this case seemed to Dr. Packard to lie in the absence of all the ordinary signs of irritant poisoning, and the doubt thus thrown upon the diagnosis. Four hours were said to have elapsed since the taking of the poison before he saw the patient; and if she had really (as proved to be the case) swallowed enough to induce the constitutional symptoms observed, it seemed as if some pain or tenderness should certainly have been manifested. The time for any attempt at evacuating the stomach had passed by, and, indeed, copious vomiting had taken place: so that all that could be done was to endeavor to neutralize the poison, if there, and to support the strength.

Dr. Leffmann said that arsenic sometimes has a marked sedative action upon the nervous system, instead of its ordinary irritant effect. In 1875 he had seen a case in which a teaspoonful of arsenic had been swallowed with a fatal result. There was no stomach-irritation: the patient died with symptoms of narcotic poisoning.

With regard to ordinary Paris green, it is also to be borne in mind that as usually sold it is largely adulterated with plaster of Paris, etc., to increase its bulk.

Dr. E. T. Bruen thought that the sedative action might really be shock, aggravated by the fact that the agent was taken with suicidal intent.

Dr. Dunmire mentioned a case of an unsuccessful suicidal attempt with Paris green, which produced vomiting, and the next day the patient went about his business.

SCENTED IODOFORM.

Dr. C. H. Burnett presented some scented iodoform powders for aural practice (see p. 302).

Dr. H. A. Wilson said that the odor of the iodoform is generally more persistent than that of the agents used to disguise it. He mentioned a combination of iodoform with musk and attar of rose.

Dr. Seiler had to give up iodoform on account of its odor, which he was unable to correct or remove.

Dr. F. Woodbury recommended iodoform cotton, made by dipping absorbent cotton in ethereal solution of iodoform and allowing it to dry. By this means a smaller amount of iodoform is introduced into the ear, and it may be the more readily disguised by some essential oil,—the volatile oil of eucalyptus especially.

SPECIMEN OF CANCER OF THE ILEUM.

Dr. M. B. Musser exhibited a specimen of cancer of the ileum, which was referred to the Pathological Committee.

PERITONITIS AFTER RHUS-POISONING.

Dr. G. B. Dunmire reported a case of proctitis and peritonitis resulting from rhus-poisoning of the buttocks.

Dr. J. T. Eskridge said that all persons are not equally susceptible to rhus-poisoning. Although easily affected himself, he had tried some experiments with the tincture of rhus, commencing with a few drops, increasing gradually to half a drachm, without experiencing any very unpleasant symptoms, beyond some griping in the bowels. Another point is that the inflammation following rhus is not so destructive as an ordinary inflammation. With regard to treatment, he believed that hydrocyanic acid relieves more quickly than anything else.

Dr. M. B. Musser recommended the application of *grindelia robusta* (3ij fluid extract to Oj water).

Dr. Woodbury urged the fact that the case when it comes under treatment is simply one of acute superficial dermatitis, for which bicarbonate of sodium or potassium in solution proves useful. Specific medication is unnecessary.

Other members recommended fluid extract of *grindelia robusta* diluted (3j in 3vij); sulphate of zinc (gr. iij, 3j); tincture of benzoin, hydrocyanic acid (3ss to 3xvj); sodium bisulphite, fluid extract of *serpentaria* full strength, bromine (℥x to 3j ointment), sodium bicarbonate.

Dr. Leffmann stated that the specimens presented were both of the same species of rhus.

Report of Committee.—The Pathological Committee reported that the specimen referred to them at a previous meeting, presented by Dr. Eskridge, was one of alveolar sarcoma.

SPECIMEN OF FIBROMA OF OVARY.

Dr. B. F. Baer, on behalf of Dr. Goodell, presented a specimen of large ovarian fibroma removed by abdominal section six weeks before.

PERSISTENT HYALOID ARTERY.

Dr. W. S. Little exhibited two patients having a persistent hyaloid artery (see p. 299).

REVIEWS AND BOOK NOTICES.

THE NURSE AND MOTHER. A Manual for the Guidance of Monthly Nurses and Mothers. By WALTER COLES, M.D., Consulting Physician to St. Ann's Lying-in Asylum, St. Louis, etc. I. H. Chambers & Co., Chicago, St. Louis, Atlanta, 1881.

The nurse and mother are two different persons. The nurse is a monthly nurse. The nurse of to-day is too much like the nurse of two thousand years ago. Hippocrates describes her like a photograph. She can be

recognized at a glance portrayed on Egyptian monuments. The author wishes to elevate her, so that a resuscitated mummy might at least feel some doubt as to her position and occupation.

Nature must provide the material. A good nurse must have a few natural gifts. She "should possess intelligence," with "good judgment" and "discretion," "good sense," adaptability,—in fact, "tact:" otherwise, education—*i.e.*, the perusal of this book—will never make her a "good nurse." The reason good nurses are not as plentiful as blackberries is therefore evident.

The nurse must not tell horrible or lewd stories in the "lying-in room," even if the doctor (shocking thought!) encourage her in it; she must never carry the contagium of puerperal fever from one case to another; she must cook with the best graduate of the Royal School of Cookery; and when her patients long for unreasonable articles of food at unreasonable times, she must be able to explain that "longing" and "marking" are by no means cause and effect,—that a lady may long with unsatisfied longing for strawberries, and her infant be marked with a pineapple; and even cite, if necessary, the sad case of the eminent lady who longed—though her husband was a temperance lecturer—for port wine, while her infant, contrary to her ardent expectation, had only a simple lemonade-mark on the posterior of its little person. She should know all the rough signs of albuminuria, the duration of pregnancy, how to harden the nipples so that they will certainly crack when the infant seizes their dried and brittle exterior, and so prevent that "much-dreaded complication *rising breast*;" just the opposite of "falling sickness," you know. She should recognize the premonitory signs of labor, and be on hand to cheer her patient; in fact, judging by the book, she should be forever on hand at every stage of pregnancy to explain everything and satisfy everybody. She should always "take her cue from the physician," should frown upon the intruding husband, teach the proper way to "take a pain," by "compressing the jaws and lips together," be always ready to extol the forceps when the doctor wants to get home, and soothe the alarm of the mother as she gazes at the swollen head of her newly-born by the author's explanation of "the hand and the hole in the board." The syringe and catheter should be as familiar to her as knife and fork, and she should be an adept in drawing out depressed nipples with hot bottles. In short, she should be a thoroughly accomplished, dignified, sympathetic, ready, experienced, agreeable person.

Should no doctor be on hand at the moment of birth, she must see to the safety of the child, and, after suitable waiting, tie the cord. Should it be asphyxiated, she should try even artificial respiration, having learned how on

page 115. In post-partum hemorrhage we see her sitting calmly by the bedside, with the womb grasped firmly, or, if contracted, "watching it," or, anon, when it relaxes, dashing cold water upon the abdomen. In puerperal convulsions she "places a tooth-brush handle between the patient's jaws, and holds it there." With the same heroic fortitude, and when nothing else turns up, she studies the urethra, "its location and direction," and familiarizes herself with the use of the catheter. When nothing about the mother any longer calls for scientific nursing, when the uterus stays shut without watching, and there is no longer urine enough in the bladder to form a basis for any more self-education, the child will demand some little care. The nurse, if the physician believe in washing, will wash the infant; but if he incline towards greasing it only, she will serenely acquiesce. She will never fill the baby's stomach with "salt or sugar and water, coal-oil, or goose-grease," because she knows that such things, especially coal-oil, will rather induce colic than prevent it. She will never apply nostrums to the unhealed navel or squeeze the swollen breasts of her little charge. With red gum, jaundice, thrush, and snuffles, she will feel at home; and having thoroughly learned the "Rules for the Management of Infants," at the end of the book, she will never err in the matter of infant diet, for she will be in all points the perfect nurse. E. W. W.

UNTERSUCHUNG VON BLUTSPUREN. Von DR. G. DRAGENDORFF, Professor der Universität Dorpat. (Examination of Blood-Stains. By Dr. G. Dragendorff, Professor in the University of Dorpat.) 8vo, pp. 24. Pamphlet.

This monograph, which, from its paging, etc., seems to be part of a large "hand-book of medical jurisprudence," is written to exhibit the extent to which our present knowledge enables experts to answer the questions as to the nature and origin of blood-stains, which so constantly arise before legal tribunals; and it is a pity that so much laborious effort should have been expended to so comparatively little purpose, simply because the author neglected to study the contemporary literature of England and America.

Prof. Dragendorff commences with minute directions for the spectroscopic analysis of supposed blood-stains, depicting the bands of hæmoglobin, oxyhæmoglobin, hæmatin, etc., in an excellent chromo-lithograph, and declaring that this method of examination should never be omitted, although it ought always to be supplemented by the "guaiacum test" and that of the production of "Teichmann's blood-crystals." These two modes of investigation are next described in detail, and the student carefully warned against possible errors from cochineal with alum and potassic-tartrate, and also from the coloring-matter of the feathers

of the *Turacus albocristatus*, with the micro-spectroscopic; and from salts of iron, manganese, and copper, flannel and filtering-paper, saliva, albumen, bile, etc., with the guaiacum test. In the latter process, however, our author uses the antiquated method of Van Deen and Liman, with oil of turpentine, instead of the far-preferable plan with ozonized ether, for which the world of medico-legal experts is indebted to Dr. John Day, of Geelong, Australia.

In attempting to solve the greatest of all problems connected with blood-stains,—viz., whether the blood in a given spot is that of a man or of one of the inferior animals,—Dr. Dragendorff proceeds on the erroneous assumption that it is necessary to restore the corpuscles in their entirety, instead of seeking for measurement their stained "cell-walls" (or stroma) only. He therefore declines to formulate any definite conclusions in regard to the most important branch of his subject. This is much to be regretted, since, if our author's opportunities and lingual attainments had permitted him to consult the standard works of A. S. Taylor, Woodman and Tidy, or Wharton and Stillé, he might have found that American experts, following the methods recently devised in this country, readily distinguish between human blood and that of the usually-slaughtered domestic animals (ox, pig, sheep, or goat); and if he ever visits Philadelphia, he can also learn in the laboratories of the University of Pennsylvania how to permanently mount specimens of washed-out blood-stains, even of advanced age, for prolonged study, instead of watching so anxiously for the exact "moment," in which alone he imagines the required observation can be made, "when the substratum (!) of the clot is partly dissolved, whilst the blood-corpuscle is still preserved" (p. 496).

Valuable suggestions in regard to the examination of blood upon earth, and in water, etc., conclude the treatise, which, without announcing any important *original* investigations, is, with the exceptions noted above, a useful *résumé* of existing knowledge, creditable alike to its learned author and to the small but time-honored Livonian University from whence it comes.

J. G. R.

GLEANINGS FROM EXCHANGES.

TETANUS FOLLOWING OVARIOTOMY—DEATH ON THE EIGHTEENTH DAY—TRIAL OF PHYSOSTIGMA, ATROPINE AND NICOTINE, CHLOROFORM INHALATIONS, AND MORPHINE.—Dr. James M. Bennett (*London Lancet*, December 3, 1881) reports a case of the removal of a large multilocular tumor containing fifty-nine pints of fluid, in which the wound healed rapidly and the prognosis seemed most favorable until the evening of the fifteenth day, when the symptoms of tetanus set in, which were fol-

lowed by death on the eighteenth day. Opium and quinine were given, a grain of each every four hours. On the morning of the sixteenth day—as she had not slept well the night previously, and to try the effect of belladonna—the one-sixteenth of a grain of sulphate of atropine was hypodermically injected; beef-tea injections, with five grains of quinine in each, were administered every three hours. No benefit appearing after three repetitions of the atropine, the extract of physostigma, in one-quarter-grain doses, was substituted, the temperature at 6 P.M. being 102° and the pulse 130 at 8 P.M. The pulse before the physostigma injection was 130; fifteen minutes after it had fallen to 118. Second injection at 12 P.M.: pulse 115 before; fifteen minutes after, 100. Third injection at 4 A.M. on the 17th: temperature unchanged; pulse 118 before, 106 after. Fourth injection at 7.30 A.M.: increased the physostigma to one-third of a grain; pulse before, 112; after, 100; temperature 103.2°, unchanged by the action of the drug. Fifth injection at 10.30 A.M.: same quantity used; pulse 117 before, 108 after. Sixth injection at 1.30 P.M.: pulse before, 130; after, 120. Although the pulse was reduced, the tetanus was more marked after its use, the opisthotonus becoming well established. Chloroform inhalation and one-quarter of a grain of morphia injection substituted; mercurial ointment with belladonna rubbed into the spine, simply as an adjuvant. At 8 P.M. nicotine was tried in one-grain doses, according to the directions of Prof. Houghton. The first dose was swallowed with difficulty. One grain was thrown into the rectum within an hour, and was retained, as was a third dose. From none was there the slightest physiological effect. At 10 P.M. the opisthotonus was so marked and the spasms so painful that the chloroform inhalation, with morphia hypodermically, had to be resumed. The temperature at 12 P.M. was 105°. The tetanus became of the most complete kind. The catheter passed with difficulty into the bladder and the enema into the rectum. The patient was sensible to within a short time of her decease, and was hopeful to the last. She sank exhausted at 8 P.M. on the eighteenth day after the operation. There was no portion of the wound that was not thoroughly united, and there was no exciting cause to be made out for such an unexpected result to an otherwise successful case. The temperature just prior to death was 107.2°.

CAUSE OF THE VARIATIONS OBSERVED IN THE AMOUNT OF OXYGEN IN THE AIR.—Dr. E. W. Morley, of Western Reserve College (*American Journal of Science*, December, 1881), writing upon the subject of the possible cause of these variations, advances the theory that the deficiencies observed in the amount of oxygen in the atmosphere are caused by the descent of air from an elevation. He bases his hypothesis upon the comparison of

maps and reports of the Signal Service with a series of analyses of air, made daily by himself at Hudson (Ohio), covering a period of fifteen months, and in which he finds that the direction of the wind was generally from the centres of high barometric pressure, and that times of high barometric pressure were usually followed by deficiencies of oxygen in the air at such places.

In a second article in the same number he shows that Jolly's hypothesis is not in accordance with facts, and at the same time advances a second hypothesis of his own. Jolly's hypothesis supposes that the volumes of air which exhibit the deficiency of oxygen are brought by currents from the tropical regions, that the deficiency of oxygen was caused in those regions, that it was caused by the consumption of oxygen in the oxidation of organic matter, and that at some places within the tropics this consumption is therefore considerably greater than the liberation of oxygen in the process of vegetation.

Dr. Morley's hypothesis supposes that the volumes of air deficient in oxygen are brought by currents from an elevation above the surface of the earth, that the deficiency of oxygen was caused while these volumes were at this elevation, and that it was caused by that assumed physical action according to which, in a high vertical column of a mixture of two gases, the heavier will tend to become less abundant at the top of the column.

His chief objections to Jolly's hypothesis are that there is no direct evidence that the atmosphere near the equator is poorer in oxygen than the air of higher latitudes; that it is difficult to ascribe to the cause assumed by Jolly a magnitude sufficient to produce the observed effect; that no such amount of transportation as is required by the hypothesis takes place through the air, nor does it take place by the waters of the globe; and, lastly, that it is very doubtful whether the whole consumption of oxygen on the globe would account for the observed deficiency of oxygen, which sometimes reaches 0.004 to 0.005 at 50° latitude, even if it be supposed that this total consumption for a certain short period be taken from one and the same small volume of air.

ASCITES IN THE FOETUS, OBSTRUCTING DELIVERY.—Dr. Herman (*Medical Times and Gazette*, December 24, 1881) reports a case of obstructed delivery from ascites in the foetus, occurring in a patient, æt. 39, in her eighth pregnancy. The only unusual symptom she had noticed was that she was frequently unwell, when she suffered from faintness, and dimness of sight, and difficulty in moving herself about in bed. The face presented with chin posterior, but quite high up. After a few hours an attempt was made to turn the chin forward and deliver with the forceps. This failing, podalic version was

performed; but not until after the foetal abdomen had been perforated and two or three pints of fluid evacuated was delivery complete. The mother made a good recovery. After delivery the internal conjugate diameter was found to measure three and a half inches. The only abnormality noticed, upon examination of the body of the child, was a cyst in the right suprarenal capsule, which contained blood. This cyst, together with the capsule, was about the size of the kidney, and extended upwards so far that it pressed on the portal vein at its entrance into the liver.

Out of ten cases collected of foetal ascites, four were of inflammatory origin. In three the liver was enlarged, and in one it was indurated. In two the spleen was large. In one there was general dropsy and distention of the bladder, and in three no other morbid signs were recognized. It was found necessary in three cases only to perforate the foetal abdomen.

CURIOUS CASE OF LEAD-POISONING.—Dr. Churton reports a curious case of a dressmaker, who was attending the Leeds Dispensary, and who was found to have a distinct blue line upon the gums, which disappeared in the course of a few weeks under iodide of potassium. An investigation of the case revealed the fact that silken thread, being sold by weight and not by length, is sometimes adulterated with sugar of lead; and upon questioning the patient it was found that it had been a common practice with her, when at work, to hold silk (and also other kinds of thread) in her mouth, and that she had done this the more readily with silk inasmuch as it often had a sweet taste. Upon further inquiry, it was learned that the silk thread of the best makers is tasteless, whereas some inferior thread is sweet.—*British Medical Journal*.

TREATMENT OF SPASMODIC DYSMENORRHEA AND STERILITY BY DILATATION OF THE CERVICAL CANAL WITH GRADUATED BOUGIES.—Dr. Godson, in a paper upon this subject read before the Obstetrical Society of London, presented notes of five successful cases, in which natural menstruation followed the use of the bougies, and pregnancy occurred within a few months. Five other cases thus treated had resulted less encouragingly, although the dysmenorrhœa was relieved in some of them. The dysmenorrhœa was of the kind known as spasmodic or obstructive, characterized by severe colicky pain in the hypogastric and sacral regions, either before the menstrual flow or coincident with it. The author preferred to drop the title obstructive, as he knew no evidence to prove that there was a want of patency of the cervical canal, and Dr. Duncan had passed a probe into the uterus at the height of the pains without meeting with obstruction. He believed that the spasm of the uterine muscular tissue was of

itself sufficient to give rise to the severe pain without obstruction. The author's conclusions were: 1, that the method was simpler and safer than any other proposed; 2, that the dilatation might be performed with safety at the house of the consultant; 3, that a very small amount of dilatation was necessary; 4, that the operation should be performed within a week or ten days after a period; 5, that it should be done not on successive days, as hitherto recommended, but all at once; that the first bougie should be a small one, and that there should not be sufficient difference between the size of successive bougies to cause a splitting of the mucous membrane; 6, that pregnancy appeared to occur on account of the dilatation having cured the condition on which the dysmenorrhœa depended. In none of his cases was there either stenosis or constriction of the canal by acute flexion. The theory of spasmodic constriction being discarded, the author suggests that the impediment was a spasmodic constriction, causing ejection of the semen.—*London Lancet*, December 31, 1881.

MISCELLANY.

HIGH LOCAL TEMPERATURES.—Dr. William Squire (*London Lancet*, December 10, 1881), in discussing the excessive temperatures in non-fatal cases from time to time recorded of late, states, as a provisional deduction, that natural variations seldom exceed by as much as 4° or 5° the temperature of a corresponding part of the surface, and are still more rarely even a degree above the internal or general temperature of the body. During scarlet fever the temperature *in recto* has been 105° and at the same time only 97° in the skin of the abdomen or in its folds. In the axilla 103° on the thoracic side and only 98° on its brachial aspect has been noted in a case of acute pulmonary congestion near the close of chronic lung-disease, while as much as 4° difference between the temples was seen in a case of probable cervical sympathetic trouble. In view of the fact that, in two instances of excessive high temperature recorded, intentional deception has been demonstrated, and from the liability to error through unequal warming or covering of parts, he suggests that it would be well if the recorders of some of the more paradoxical observations would review their experience by the light of these facts, and if those who make observations in future would take pains to exclude these and other possible sources of error.

EXPERT FEES IN COURTS OF JUSTICE.—In a recent suit for extra fees for expert testimony, tried before the Supreme Court of Boston (*Boston Medical and Surgical Journal*, December 22, 1881), it was claimed, on behalf of the defence, that a medical man is bound to testify to anything he may happen

to know relevant to a case in court, whether it is a matter of fact in the particular case or of general professional knowledge or opinion, and that he cannot lawfully require for giving his opinion any greater fees than an ordinary witness is entitled to. The court, however, disallowed this defence, and ruled that a physician is not bound to give his professional opinion for nothing in a court, any more than elsewhere, and that he may require to be paid for testifying as an expert.

ACCORDING to the *Lancet*, the death-rate per annum for the second week in December, 1881, was equal to 43.9 per 1000 in St. Petersburg, 23.2 in Stockholm, 28.6 in Paris, 18.9 in Brussels, 21.7 in Dresden, 38.1 in Buda-Pesth, 25.1 in Venice, 28.1 in Naples, and 40.4 in Alexandria. It was equal to 21.3 in Philadelphia, 22 in Brooklyn, 28 in Baltimore, and 28.7 in New York.

DR. KIBBE reports, in the *Rocky Mountain Medical Times*, a case of transient mania following the lodgment of a bedbug in the ear, the peculiarity of which was that the mania came on some hours *after* the removal of the bug.

NOTES AND QUERIES.

In the text of Dr. Reichert's article on "Two New Ky-mographions," etc., in the last number, several errors occurred in the numerals relating to several parts in the figures, notably in the last line of the second column, p. 268, where 5 should be 9; also in p. 271, where 6 should be 7, and *vice versa*. There are several others, though less important.

Also, on p. 271, second column, it says, "by pulling consentaneously on the two cords 9 and 10." These cords were not numbered in Fig. 2, but by referring to Fig. 1, in which the cords are similarly arranged, it would read "by pulling consentaneously on cord 6 and the cord by which weight 5 (lowest weight) is suspended," etc.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 22 TO FEBRUARY 4, 1882.

SUMMERS, J. E., LIEUTENANT-COLONEL AND SURGEON, MEDICAL DIRECTOR DEPARTMENT OF THE PLATTE.—Leave of absence further extended one month. S. O. 20, c. s., A. G. O.

STERNBERG, GEORGE M., MAJOR AND SURGEON.—Granted leave of absence for one month; and, during his absence, Surgeon J. C. Bailly to attend the sick at Point San José, Cal. S. O. 9, Military Division of the Pacific and Department of California, January 16, 1882.

WOODWARD, JOSEPH J., MAJOR AND SURGEON.—Granted leave of absence for six months on surgeon's certificate of disability, with permission to go beyond sea. S. O. 23, A. G. O., January 30, 1882.

COMEGYS, E. T., CAPTAIN AND ASSISTANT-SURGEON.—Now stationed at Columbus Barracks, Ohio; to report in person to the President of the Medical Examining Board in session in New York City, for examination for promotion, and, upon completion of examination, to return to proper station. S. O. 19, A. G. O., January 25, 1882.

BANISTER, J. M., FIRST-LIEUTENANT AND ASSISTANT-SURGEON, FORT RENO, IND. T.—Granted leave of absence for one month. S. O. 18, Department of the Missouri, January 24, 1882.

MADDOX, THOS. J. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Having reported at these Headquarters, in compliance with S. O. 2, c. s., A. G. O., will report to the Commanding Officer, Fort Clark, Texas, for duty. S. O. 6, Department of Texas, January 16, 1882.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 25, 1882.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON SOME POINTS CONNECTED WITH THE DIET OF INFANTS.

Delivered at the Philadelphia Hospital, February 1, 1882,

BY JOHN M. KEATING, M.D.,

Lecturer on Diseases of Children at the University of Pennsylvania, Visiting Obstetrician and Lecturer on Diseases of Women and Children at the Philadelphia Hospital.

GENTLEMEN,—I will take advantage of the opportunity afforded me this morning by the presence of the cases selected from many in the lying-in wards and nursery, now before you, to illustrate by them the great importance of attention to the diet of young infants. You can see for yourselves the effects of the maternal milk upon the babe, noticing that those mothers who appear feeble and look cachectic carry children who bear evidence of the want of nutriment in the milk; and, again, those that are robust prove their state of health by the children they carry in their arms. Then, again, you will note the miserable appearance of these fatherless and motherless babes who have been found abandoned upon door-steps or cellar-ways, and whom we are obliged to feed the best we can upon bottle-food, with a very poor prospect of success. This question of infant-feeding will come before you some day in a problem most difficult to solve, and it will try not only your patience, but your ingenuity, to surmount its many difficulties.

It is well for me at the outset to state definitely to you the views I have adopted after a careful study of this subject, for I feel assured that your own experience will coincide with mine. I believe that all mothers should nurse their babes for at least six months, unless the family physician should deem the contrary advisable; but he should always be consulted, and should weigh the balance well before giving an opinion. In case the mother then cannot nurse her child, the next best thing is, most decidedly, a suitable wet-nurse; and especially do I urge this upon you if the child be in delicate health, or should the matter come before you for decision during the summer and the babe be

obliged to remain in town. Should it be difficult for you at the time to obtain a wet-nurse, or should the circumstances of the family make the additional expense of keeping one a matter of great importance, and the babe at the same time be in good health and vigorous, with an intelligent mother to assist you, or an able and experienced child's-nurse to carefully carry out your instructions and to suggest changes in diet as the case requires, you will not find bottle-feeding to be the *bête noire* that it is so generally considered. Statistics in hospitals, which show the frightful mortality amongst hand-fed babes, are not reliable for this purpose. I may tell you that the mortality of the "foundlings" in this institution is nearly sixty per cent. of those admitted. Those babies that are healthy when found, and attractive, are adopted into childless families, and of the remainder but very few survive. Of this remainder, whose great mortality is a subject of so much comment, probably two-thirds, or even more, are found to show symptoms of congenital syphilis before they die; all have been exposed on door-steps, cellar-ways, etc., for hours, in all seasons, before they have been found; this infant which I bring to show you, and which still lingers with us, has a specific eruption upon it, and a history of having vomited curds saturated with paregoric shortly after its admission to the house.

I believe that the mortality could be somewhat lessened if such children were wet-nursed; but, gentlemen, with the present state of the history of disease, I should never allow a babe with the slightest suspicion of syphilis—and all such infants have—to touch the breasts of any woman healthy enough to give the nourishing milk. You will see, then, that though a more careful system of nursing, with all the modern improvements in regard to babies' foods and proper ventilation, might save a very small percentage more of the foundlings than the records of this institution show, the large mortality may be based upon exposure and inherited disease, rather than upon bottle-feeding. Then, again, you must bear in mind that the farther you deviate from the plan already adopted by nature in the nursing of infants, the greater must be the care in order to insure success; and therefore the general term "bottle-feeding" receives popular condemnation

because the word "careless," which should precede it, is left to be understood.

I may then tell you that the bottle-feeding of babes, though occupying the third consideration in the treatment of our subject, becomes on that account the most important one for us to study, because the success or failure that will attend it shall depend upon the scientific precision with which the rules are set down by you, and the careful, conscientious manner in which they are carried out by the attendant or mother. Your directions cannot be too explicit, and your inquiries cannot be too exact. The question of the freshness and strength of the cow's milk will have to be taken into consideration; the importance of diluting and sweetening it to bring it to average analysis of mother's milk; regularity in feeding, and the proper working of the child's digestive organs to insure its digestion. I have elsewhere alluded to this subject,* and to-day I will merely detain you by a few remarks upon the foods which have appeared in the market, and about which you will surely be questioned by anxious mothers.

Borden's condensed milk and the Anglo-Swiss food are frequently used in the place of milk when the latter is difficult to obtain, or when there is difficulty in suiting to a child's stomach the milk from various cows. Let me illustrate this. A family are boarding in the country in summer towards the end of the hot season, and a bottle-fed babe has been doing well. Suddenly the child becomes ill; the milk is not retained, the bowels become loose, and the case becomes a serious one. No cause can be found apparent at the time. The milk will not agree, and the child requires an immediate change. If you are getting *one* cow's milk, you may change to another: this also fails to agree. Then it is necessary to put the child on condensed milk, for a while at least, and under these circumstances its use is not only indicated but imperative. You will no doubt discover that the cow had been changed to a clover-pasture, and that the cause of the disturbance was this. I mention this to guard those of you who are unfamiliar with farm-ways:—milk, fresh milk, and *one* cow's milk, may not be the bland, nutritious, unirritating diet that it looks; the cow's pasture, having recently calved, bad drainage of the dairy, often insinuate an unseen but potent poison to the

babe. You will find, certainly in this part of the world, no better substitute for mother's milk than that of the cow, not given in its full strength, but prepared and diluted to suit each individual case. I caution you about the use of condensed milk as used exclusively for diet for any prolonged length of time. As a substitute for cow's milk during a period of illness, or, again, as a resort during hot weather, when the keeping of milk seems an impossibility, or for use during a short residence at the seashore, where good milk is hard to obtain, it is invaluable; but I would advise you not to recommend mothers to bring up their infants upon condensed milk alone. It may agree well for a time, and the child may fatten and thrive; but its fat and muscle will not be of the permanent kind: it will not have the power of resistance to disorders which a diet of mother's or cow's milk would give it.

It is scarcely necessary for me to spend any time to-day in explaining to you the uselessness of giving much starchy food to young infants. You all know that starch must be converted into grape-sugar during its digestion, and that this is usually done by the saliva first, and finally by the pancreatic juice. In a young infant these secretions are reduced to the minimum, and it is not until dentition is pretty well started that they are sufficiently established to aid in the digestive functions. You should therefore carefully guard your advice in recommending the form of nourishment for an infant: satisfy yourself beforehand either that the child is of an age to digest or turn into *glucose* any starchy substance added to its milk, or that no starch is given and depended upon alone for the child's nourishment. Whilst on this subject, I may state to you that frequently you will find it advisable to take advantage of this very fact, in order to prevent the curd of cow's milk forming in one tenacious mass, by adding to the child's food a small quantity of arrow-root or some wheat *food*, which, when thoroughly incorporated with the milk, will make the curds flaky, and be harmless in itself.

The *gluten* is the portion of the cereal which you should seek in the preparation of an infant's food. It is the most easily digested, and also one of the most nourishing substances. It is it which is essential to bread-making, forming as it does the outer border of the air-holes found in well-

* Mother's Guide, etc.

risen bread. You can obtain it by sprinkling ordinary flour on a goblet of water; the gluten will hydrate and settle to the bottom; and by pouring off the starch and water you will get a tenacious, pasty mass, which is pure gluten. Let me describe to you the place it occupies in the grain:

"If a grain of wheat as a type of other cereals be examined, there will be found first the outer coat, middle and inner coats, forming together the husk or bran. These coats are wholly destitute of nutritious properties. Next in order comes a layer of cells or sacs, crowded together and lying in irregular shapes. These sacs average $\frac{3}{16}$ of an inch in diameter, contain gluten, with a little oil and albumen. The gluten is in the form of small granules $\frac{1}{100}$ of an inch in diameter; and when a sac is ruptured, these adhere to each other (are glued together) with great tenacity. Lastly, in the centre of the grain, packed away in cells or sacs, is the starch, also in small granules."*

The substitute, then, for mother's milk should consist of a fluid resembling it as closely as possible, and containing in quantities more or less any other materials which are nutritious and easy of digestion. For this latter purpose has gluten been selected, containing as it does the concentration of nutriment, and not requiring any chemical change to transform it into a soluble substance. Starch, when converted into *dextrine*, and then into *glucose*, becomes also a food, and for this purpose the various foods for babies are malted, in order that a partial digestion or transformation shall take place outside of the stomach and independent of the action of the salivary glands and of the pancreas. But then, gentlemen, you are well aware that the *non-nitrogenous* class of foods—the starchy, saccharine, and fatty—are essential only to the production of animal temperature. You have doubtless heard experiment after experiment cited by your professor of physiology, in which animals have starved to death when fed liberally upon this class alone.† It is otherwise with the *nitrogenous* forms, represented in the cereal by the *gluten* in the bran. An animal can live and repair its tissue-waste upon nitrogenous diet exclusively, and can keep up a certain amount of animal heat. It is not a question, then, whether or not

young babes can digest starchy food: to a limited amount, in many cases, probably they can: we do know that, even should they be able to convert starch into saccharine matter and absorb it, it is absolutely worthless as regards the reparation of tissue, and that consequently the children who are forced to live on bottle-food of thin corn-starch made with water, or farina, or maizena, or cerealina, or white-wheat flour, get their growth only by the small amount of *gluten* which (by mistake!) was allowed to remain in the food.

It makes no difference, then, if you can or cannot detect the reaction of starch, or polarize light by its granules, in the stools of infants fed upon it. Physiologically, as a *food*, in the sense of repairing tissue, it is inert.

From this hasty *résumé* of our subject, in which I have endeavored to present to you in as clear a manner as possible the matter of infants' diet, you will see that a great responsibility rests upon the physician in the choice of the substitutes for mother's milk. It is well to occasionally change from one preparation to another, and not attempt to bring a child up on one exclusive preparation. You should be sure that the food recommended by you contains either milk or milk with food prepared from cereals, or that it should have a large proportion of gluten, and that the small amount of starch should be prepared for digestion either by baking or malting, so as to facilitate its easy change to grape-sugar.

With this object in view, I will read for you a few extracts from a most excellent article by Dr. Ephraim Cutter, of Boston, which has lately appeared, and which gives the results of a microscopic examination of a number of "foods" and flours (800 diameters), from which, with what I have told you, you can draw your own conclusions. You should verify these statements by careful microscopic investigations of your own.

"1. *Common wheat flour*.—In making flour, three-fourths of the gluten is removed, and the chief strength of the food is thus destroyed.

"2. *Imperial granum food*.—It ranks only with common flour.

"3. *Ridge's food*.—The proprietors must add gluten cells, at least in the proportions found in wheat or maize, to bring their product up to the standard of wheat flour.

"4. *Horlick's food*.—It approaches common flour.

* American Medical Weekly, January 7, 1882,—article by Ephraim Cutter, A.M., M.D.

† See Flint's Physiology,—Digestion.

"5. *Mellin's food*.—This food stands high in the list. Should the proprietors put in the full proportion of gluten cells, it would be faultless.

"6. *Gluten flour, New York Health Food Co.*—Cannot be distinguished from common flour.

"7. *Gluten flour, several specimens*.—Where only seventy gluten cells are found in a flour claimed to be all gluten, comment is unnecessary.

"8. *Franklin Mills entire wheat flour*.—Repeated examinations prove this to be the best flour examined. So long as the makers maintain such a proportion of gluten cells, they confer a blessing on mankind. It produces a light and spongy bread. It is a reliable infant's food.

"9. *Blanchard's glutena*.—While there is gluten always found, this food contains ninety per cent. of starch and only ten per cent. of gluten,—the reverse exactly of the claim made for the food.

"10. *Blair's wheat food*.—Abundance of free starch grains, giant, medium, and granular. No gluten cells.

"11. *Nestle's milk food*.—It contains starch, and in the field there is an abundance of oil-globules. There is milk in it, but no gluten, and a quantity of starch.

"12. *Anglo-Swiss food*.—It is a milk food, with some gluten and cooked starch.

"13. *Baby sop, 1*.—Contains all the elements of the oat; an abundance of gluten. Starch grains much smaller than those of the wheat, and the gluten cells of characteristic shape. This food is made of unhulled oats, malted and crushed. Sustains its modest claims.

"14. *Victor's baby food*.—Claims 'a close resemblance to mother's milk.' It is like cracker and biscuit ground up.

"15. *Hubbell's prepared wheat*.—Starch cooked, but not enough to prevent polarization of light. A few gluten cells. Not up to its claims.

"16. *Mother's cereal milk substitute*.—It contains gluten cells, bundles of wheat-starch, barley-starch, and gluten granules.

"17. *Hawley's Liebig's food*.—Wheat-gluten cells, barley-gluten cells, barley tegument, wheat-starch corded granular masses, not polarizing light; well malted. A good food, and its claims are sustained.

"18. *Gerber's food*.—Gerber's food for infants and children seems to be crackers ground.

"19. *Keasbey & Mattison's Infant's food*.—Contains no gluten cells. It consists of grape-sugar and dextrine (converted starch), and is claimed to contain alkaline phosphates.

"20. *Savory & Moore's food*.—Appears the same as common flour."

I would, then, recommend to you to use cow's milk as a basis for the bottle-feeding of infants,—condensed milk at times when

cow's milk proves injurious or when it is difficult to obtain, adding to it a preparation made from the cereals in order to supply an increased amount of nourishment. You should make the latter from the *crushed* grains, in order to get the phosphates which are contained in the bran and the gluten. You may use cracked wheat, coarse oatmeal, or crushed barley, using first cold water, and finally bringing it up to a high temperature and evaporating to half the quantity, so that the gelatinous material, when strained and cold, will represent the nutritive elements of the grain in a most concentrated form.

In very young infants I would advise you to adhere to a strict milk diet, and to avoid any additional preparations, which would only burden the digestive organs of the child. As the infant grows older, you can with caution advise the trial of Mellin's food, Hawley's food, Nestle's milk food; or the Anglo-Swiss food, any of which added to the cow's milk will make it more nutritious; but at the same time let me caution you to use them in moderation and vary the preparations. Gluten itself, as physiologists will tell you, acts as a ferment in the change of starch into dextrine and grape-sugar, and, consequently, when a preparation is found rich in gluten its starch will be more rapidly changed and assimilated. I do not, then, tell you not to give starchy food to infants, but I urge you most emphatically to impress upon those under your charge, not to expect an infant to live and thrive on starchy food alone: however soluble you may get it by its conversion into sugar either outside or by the digestive juices of the child, it will be useless as a food for the purpose of sustaining life, and will only act as a heat-producer.

HYPODERMIC INJECTION OF COLD WATER.—Dr. Raymond Tripiere employs subcutaneous injections of aqua fontis to prevent vomiting of food in phthisical patients. For this purpose, he writes in the *Lyon Médical*, he injects into the epigastrium a syringe of very cold water, either before or immediately after the meal. Under the influence of these injections he has often witnessed the cessation of vomiting which had persisted in spite of appropriate remedies. It appears similarly to stop vomiting in some dyspeptics, and especially in so-called nervous women who dread the use of morphia. It is in these latter patients especially that it is convenient not to let them know the nature of the fluid injected.

ORIGINAL COMMUNICATIONS.

THE TREATMENT OF SYPHILIS IN ITS DIFFERENT STAGES.

*Read before the Philadelphia County Medical Society,
December 14, 1881,*

BY E. L. KEYES, M.D.,
New York.

GENTLEMEN,—In responding to-night to your call for a short paper on the "treatment of syphilis in its different stages," I find that I have accepted a task more honorable than easy of performance.

It would be idle for me to rehearse to you the different treatments at present approved by the varied authorities whose position in the profession entitles their opinions to respect. Such information is open to any one who searches for it in the abundant literature of the day, and the mere parade of it has no value. Authorities differ, and a statement of their methods gives no clue to the relative value of their claims.

Nor would it be agreeable for me or acceptable to you to detail to you simply my own notions on the subject under consideration. They are already before the profession, and their recapitulation alone will not add either to their force or to any value they may possess.

I shall, therefore, in the hope of exciting profitable discussion, employ the greater part of my time to-night in a consideration of the nature of syphilis and the needs of its different stages and symptoms for treatment, and in trying to justify the methods I have adopted and promulgated by giving the reasons upon which the course is founded. The course itself is, perhaps unfortunately, known by a name which causes it to be misunderstood, and the reasons upon which the course is founded have, I believe, been lost sight of, being overshadowed by one of the accidents of the course,—namely, its tonic quality.

I shall approach my conclusions by a consideration of the subject briefly under five heads, as follows:

1. Syphilis in all cases requires treatment by specifics.

2. Syphilis is one and the same for all, modified by constitution, diathesis, and surroundings, varying in its symptoms according to the soil in which it grows:

therefore, as the disease is one, so should the treatment be, modifications in treatment being directed against individual peculiarities: the individual must be treated as well as the disease.

3. Mild continued treatment by mercury meets all the general indications of the disease as a whole, and has the extra advantage of being itself tonic.

4. The abortive treatment: there is none yet known the claims of which have been satisfactorily demonstrated.

5. The question of mercury *versus* iodine; of patients who can take neither. The value of the preparations of iodine, and the objection to their use early in syphilis.

1. Syphilis in all cases requires treatment by specifics.

Syphilis is a picturesque disorder, full of surprises. Its symptoms are grouped with a very irregular regularity. They come within sufficiently definite bounds to allow a reasonable classification into stages; but the stages are constantly more or less overlapping each other, and at what time the very last symptom has appeared or is to appear, no honest person can certainly decide or predict.

There is, however, a very distinct tendency to self-limitation on the part of the disease, and to spontaneous cure after the lapse of a certain indefinite period, and this cure may occur without specific treatment, and does occur in severe as well as in mild cases. Syphilis does run itself out in time, and patients become capable of reproducing healthy offspring and incapable of transmitting the disease, thus proving themselves to be well in so far as the persistence of any specific transmissible poison is concerned.

On the other hand, by the uniform testimony of all observers, if there is any specific treatment, any counteracting influence which obviously controls the active manifestations of the poison, that specific and that influence are found best expressed in the various preparations of mercury and of iodine.

Yet these preparations, strictly speaking, do not cure the disease. They put off the date of appearance of symptoms, control symptoms in a measure when they do appear, and more or less surely prevent relapse, but they probably do not materially shorten the total duration of the disease.

What need, then, is there for any specific

at all, and why should not the disease, especially mild cases of it, be allowed to run its course under the sustaining influence of tonics, hygiene, etc.?

Indeed, this course is advocated by men of high prominence and large experience. Diday long ago taught that mild syphilis should be left alone so far as mercury was concerned, and Zeissl and Sigmund more recently have written very ably in defence of a similar course. All of these gentlemen agree, however, that when the symptoms run high and when important organs or tissues are threatened, then the powerful aid of mercury must be invoked to arrest the devastation. The idea still holds nearly unbroken sway in the profession (as it does entirely in the minds of the public) that mercury is an evil thing, and only to be tolerated and employed because syphilis is worse.

The argument is, if mild syphilis will get well without mercury, let it do so. Use mercury for serious lesions to prevent scarring, loss of tissue or of function, but stop using it as soon as possible after the symptoms are under control.

Short courses of mercury and rapidity of the cure of symptoms seem to be the aim and object of many systems of treatment. The *coup sur coup* treatment aimed at destroying the disease by crowding it down with heavy treatment, when it showed itself, without regard to any harm that might be done the patient by excess of mercury. Treatment by the ancient method of salivation had the same general end in view. The modern milder French treatment,—interrupted courses of mercury,—generally called Fournier's treatment, is a modification of the same idea, although the quantity of mercury is brought within limits where it does no harm. The advocates of mercurial vapor-baths, and of inunction treatments, and of courses of hypodermic injections of mercuric peptones, and the like, make the claim for adoption of their systems that the symptoms disappear very promptly under the use of less mercury and for a shorter length of time than is required by other systems, or by the use of mercury introduced in a manner calculated to do little or no harm to the general system. The claims of the Arkansas Hot Springs rest largely on the eliminative qualities of the waters, which allow larger quantities of medicines to be used to combat symptoms than could be

safely employed at home; in this way curing inveterate lesions in a shorter time than could be done otherwise. I think the claim that relapses are prevented by a course at the Hot Springs is pretty well given up by intelligent and unprejudiced observers.

Now, if the premises just detailed are correctly stated, it follows that mercury, given in one way or another, is generally recognized at the present day as the natural enemy of syphilis, but that it is also feared, and that all sorts of efforts are constantly being made to shorten the time during which it is used, while many practitioners seek to do without it altogether, substituting tonics, herbs, iodide of potassium, etc.

This, I believe, is not rational, unless mercury is a harmful thing.

It is acknowledged that mercury is more or less a specific against the poison of syphilis. If, then, it can be shown that mercury may be so used as to be a tonic in its action, logic compels the conclusion that mercury should be used in all cases of syphilis, mild and severe,—mild, because it cannot harm the patient, while it makes his symptoms lighter,—severe, because it moderates the element of severity, and may prevent serious loss of tissue or of function.

2. Syphilis is one and the same for all, modified by constitution, diathesis, and surroundings, varying in its symptoms according to the soil in which it grows: therefore, as the disease is one, so should the treatment be, modifications in treatment being directed towards individual peculiarities: the individual must be treated as well as the disease.

I am aware that some gentlemen in high position have decided against the influence of diathesis as modifying the appearance and course of syphilis. This I cannot understand. In my own observation it certainly is not true.

There is but one syphilis. Malignant syphilis and mild syphilis do not exist as separate entities. I have not time to discuss here why syphilis is mild in Portugal, is said not to be capable of thriving at all in Central Africa, is intense in certain parts of South America, and occasionally, when introduced into a new district, takes the form of a scourge. I mean to say that in a given community, like this, for instance, there is only one syphilis. Two

men acquire it from the same source: the one has it severely, the other barely has enough symptoms to make a diagnosis from, and this independently of whether either of them has a single or a multiple primary lesion. The quantity of the poison absorbed does not regulate the result, any more than does the quality of the poison.

Both of these men may infect their wives, and the one with severe syphilis is just as likely to transmit a mild syphilis as is his more fortunate companion. This is notoriously a fact, and I need not stop to defend it. Every observer with a large field constantly meets with just such instances.

How is it possible to account for this except on the ground of soil? Syphilitic seed on a scrofulous soil tends to yield pustules and ulcers running a slow course, bone disease culminating in caries. The same seed on gouty soil tends to yield dry scaling lesions very obstinate in character, mouth lesions, neuralgic affections, joint troubles, and brain and nerve disease. The tendency towards phagedæna and malignant forms of syphilis, although distinctly attaching to members of the same family, is not, in my experience, due to the existence of any yet described form of diathesis. A florid, healthy-looking youth is just as likely to suffer from phagedæna as a broken-down old man, but phagedæna is not transmissible to another subject as phagedæna. The tendency to it is a physical personal peculiarity.

If, then, my grounds are again tenable, and syphilis is one and the same, except in so far as it is modified by diathesis, habits of life, and surroundings (for dissipation and irregularities of life intensify the number, duration, and severity of the outbreaks)—if this is so, I repeat, then one and the same treatment is applicable to all cases of the disease in which it is well borne, countless outside modifications being required to meet peculiarities constitutional, diathetic, depending on habits of life, surroundings, and special conditions of body and general health.

3. Mild continued treatment by mercury meets all the general indications of the disease as a whole, and has the extra advantage of being itself tonic.

Since the disease—syphilis—is a continuous malady, with periods of symptomatic outbreak, the specific treatment

should be also used continuously in a mild way, with periods of increase to meet the outbreaks.

This is the form of treatment in the main which I have employed systematically for fourteen years, and thus far to my entire satisfaction, and, I believe, to that of my patients. Many of them are married, being in every instance, thus far, the parents of healthy families.

The treatment is the simplest in the world, but requires intelligence on the part of the patient for its success. I invariably explain the whole matter to the patient, and usually inform him that he must consider himself his own physician-in-ordinary, retaining me as a consultant. I put him on some form of mild mercurial in small dose, usually in pill form. Often the form is the centigramme granule of the protiodide of mercury, made by Garnier and Lamoureux. This does not always agree, and then I choose from among the vast number of other preparations of mercury until a suitable one is found. The patient is instructed how—commencing mildly—he is gradually to increase his mercurial dose on every third or fourth day until he perceives the irritative or the toxic effect of the drug. Then, when he has light diarrhoea or slightly tender gums, he reports, has the dose noted down as a “full dose,” to be used when required,—perhaps aided by a little opium,—and he is instructed to cease all treatment for a couple of days, and then to take up a steady dose of one-half to one-third of the full amount which he is capable of digesting.

This one-third or one-half amount, varying according to the patient's constitution and the quality of his symptoms, I have found to be a tonic in nearly all conditions of health or disease. I therefore name it the “tonic dose,” and this dose I endeavor to get my patient sufficiently interested in to cause him to be willing to take it constantly for a period of from two and a half to three and a half years.

Intelligent patients will do this; those who lack intelligence or are not careful about themselves, or lack perseverance, and those who are not convinced of the necessity of so long a course and its harmlessness, will fail. The latter are much more troublesome patients in the end than the class first mentioned.

This treatment I have called the "tonic treatment" of syphilis, so naming it because, over and above its specific quality, it yet has the great advantage of being tonic. It is not in virtue of its tonicity that the treatment is useful. Other medicines are more tonic, but on that account they are by no means suitable to be relied upon to combat so grave an enemy as syphilis.

That the treatment is tonic I think is proved by the investigations I have published in the *American Journal of the Medical Sciences*, January, 1876,* showing a long series of experiments with the h matim tre. I need not occupy your time now by reverting to any of the facts established there. Those facts have never been controverted or seriously shaken, so far as I know. On the contrary, they have been all the more firmly established by a long and laborious series of experiments undertaken in Germany by Hermann Schlesinger. The essay is an exhaustive one, and received a prize from the medical faculty of G ttingen. It is entitled "An Experimental Inquiry into the Action of Continued Small Doses of Mercury on Animals."† Schlesinger's experiments extended over a period of a year and more. They were performed upon animals, and confirm my conclusions in every respect upon those animals which responded to mercury as man does. Schlesinger found that sheep, goats, and hens did not improve under mercury, but that rabbits and dogs did, dogs giving the best results. A number of very interesting experiments are recorded, the most interesting one being that of a dog who was kept in an open cage for a year and continuously dosed with mercury in a moderate way. This animal gained twenty pounds in weight, and his blood-globules increased from 9,000,000 to 12,000,000 in the cubic centimetre. The amount of uric acid in the urine did not increase. This dog, although kept in a cage, could not get his normal amount of exercise, and when, at the end of a year, being overcharged with fat and unused to exercise, he was let loose, he got sick, and had a diarrh ea for fourteen days, which reduced his weight and the number of his red blood-cells. The dog recovered, however, without intermitting his dose of mercury, and

when killed was healthy in his tissues and organs. He had more fat than usual between the muscular fibres of the heart, but the fibres themselves were unaltered, the valves were normal. There was a patch of atheroma upon the aorta, but this was not found in any other of the dogs experimented upon. Fatty degeneration was found in the straight urinary tubules, but the glomerules and all the vessels were normal, while secretion had been perfect. It is hard to say how much of the pathological changes in this animal were due to lack of proper exercise for a year. It is also impossible to know but that the quantity of mercury administered was more than the dose which was a proper tonic for the animal in question.

Certain it is that the tonic mercurial dose in man does not lead to any obvious unnatural accumulation of fat (as it did in Schlesinger's dogs), and many patients whom I formerly had under continuous mercurial treatment for three years are still occasionally seen by me seemingly in perfect health long years after their treatment, and exhibiting no evidences of fatty degeneration of any of their tissues or organs.

The tonic action of mercury is therefore, I think, established, although Schlesinger denies it, stating his belief that the continued use of small doses of mercury exerts a restraining influence upon the process of oxidation, and thus retards the destruction of red blood-corpuscles and leads to an accumulation of fat. He asserts (after Petrowski) that iron when acting as a tonic increases the number of red cells, the weight of the body, the heat, the pulse, and the excretion of urea. Mercury does not act in all these ways: therefore, says Schlesinger, it is not a tonic; but this is a distinction without a difference. If animals and men, sick and well, free and in confinement, thrive upon it in minute doses, increase in vigor and in the number of their red blood-cells without receiving harm from it in their tissues or organs, I maintain that the medicine is a tonic in the fullest sense of the term.

My belief, then, is that a mild mercurial course, when well borne by the stomach, is always tonic, that it is also always specific in its action as counteracting the poison of syphilis: therefore I believe it constitutes the proper basis of treatment through all the stages of syphilis.

It follows without saying, and I need

* The Effect of Small Doses of Mercury in Modifying the Number of the Red Blood-Corpuscles in Syphilis.

† Archiv f. Exp. Path. und Pharm., Bd. xiii. Heft v. p. 317.

not delay you by enlarging upon the fact, that hygienic and general tonic, diathetic, constitutional, and individual personal treatment must go hand in hand and be intelligently combined with the specific continuous general treatment in all cases; and that special symptoms and special out-breaks constantly require special therapeutic attention throughout the course.

4. The abortive treatment: there is none yet known, the claims of which have been satisfactorily demonstrated. An individual does not always acquire syphilis when exposed to it. I have known more than one instance where two men have cohabited with the same woman on the same night, and one has become poisoned while the other escaped, a solid skin and cleanliness being evidently the salvation of the latter.

But let an individual once fairly receive the poison into his tissues, and I believe that he is syphilitic, and so remains in spite of any local treatment applied at the point of entrance of the poison. Berkeley Hill's well-known case proves this,* in which, twelve hours after intercourse, an abrasion was deeply cauterized by Hill with fuming nitric acid without at all interfering with the development of syphilitic chancre under the scar of the cauterization one month later. Numbers of true chancres are constantly being destroyed with nitric acid immediately on their appearance, but syphilis is not averted. Every one in the way of seeing syphilis encounters such cases very often.

The question of the possibility of aborting syphilis by a thorough excision of the primary lesion (chancre) has been seriously raised of late, and had powerful advocacy. Essayed first in 1840 by Meyer, then by Heuter in 1867, and with varying claims of success by Ulrich, Coulson, Langenbeck, Thiry, Vogt, Kuszlinski, Otis, and others, it did not take shape as a serious proposition until the elaborate article containing records of thirty-three excisions appeared from the pen of Auspitz in 1877.† Excluding ten doubtful cases, Auspitz claimed for his excisions success in fourteen out of the twenty-three remaining cases. K  lliker‡ followed with eight excisions, claiming to have averted subsequent syphilis in three; then Thira, with

three cases,§ two of which, it is claimed, remained well. The reports of these cases did not carry conviction, and in reviewing them in the *Annals of Dermatology* I suggested some of the probable errors in diagnosis, for which I received a rather rough criticism in pamphlet form from Herr Auspitz.

Since then Zeiss|| has come out to affirm his belief that chancre denotes that already general infection has occurred, and to record five chancres excised by himself, in which cases secondary symptoms developed in the usual manner.

Next comes Henri Leloir,¶ who gives a full history of the subject, condemns excision, and quotes the opinion of Ricord, rendered orally to him, that the destruction of a syphilitic chancre at any period of its existence, even effected by amputation of the penis, would not avert the appearance of secondary symptoms in due course.

Chadzynski,** of Lemberg, brings the subject up to July 25, 1880, by collating one hundred and forty-one cases of excision of primary induration, thirty of which he personally observed. In seventy-seven cases no secondary symptoms appeared. Auspitz, however, followed Chadzynski's article in the next number of the *Annals*, claiming that his (Auspitz's) essay had been incorrectly reported, thus throwing discredit on the whole of Chadzynski's paper. Finally, in the present year Mauriac†† comes forward with seven cases in which excision was practised from the fourth to the eighteenth day. In one case the chancre was excised fifty hours after its first appearance. In every case secondary syphilis followed.

It is plain, therefore, that no reliance can be placed on the excision of the initial lesion to abort or to avert syphilis once acquired. It is even possible that all the reported successes were either gummata of the penis, or some lesion other than syphilitic chancre, which was excised, the unfortunate error of diagnosis depending upon reliance on the exploded notion that an indurated ulcer on the penis, a so-called hard chancre, is necessarily syphilitic in its nature. The fallacy of reliance on the simple induration of a sore to prove

* On Venereal Diseases, London, 1868, p. 67.

† Vierteljahresschrift f. Derm. u. Syph., iv, 1877, 1 and 2, p. 101.

‡ Centralbl. f. Chirurgie, 1878, p. 801.

§ Centralbl. f. Chirurgie, 1879, p. 385.

¶ Wiener Med. Presse, Nos. 27, 28, 29, 1880.

‡ Annales de Derm. et de Syph., i., 1880, p. 69.

** Ibid., July 25, 1880.

†† Gaz. des H  p., 1881, Nos. 7, 10, 14.

its syphilitic nature has been long since demonstrated.

5. The question of mercury *versus* iodine; of patients who can take neither. The value of the preparations of iodine, and the objection to their use early in syphilis.

My limits of space this evening compel me to omit all consideration of when to begin treatment, when to end it, and the questions of prognosis and of marriage, in so far as they are influenced by treatment. I pass at once to the drugs employed.

Iodine and mercury need alone detain us: sarsaparilla, stillingia, and tajuya are not specifics. Mercury is very valuable in shortening the duration of chancre, and in those cases where confrontation leaves no question as to the nature of the sore, it may be appropriately employed. A reasonably full dose is better than the tonic dose for this purpose, because a specific action is required.

During the period of second incubation the tonic small dose of mercury is all that is called for, with such hygienic, dietetic, and ordinary tonic means as the individual case requires.

During the whole of the secondary outbreak most cases demand mercury alone,—the full dose when the eruption is present, the tonic dose when it is absent.

The intermediary eruptions do better on a mixed treatment,—mercury with the iodides while the eruption is out and for a short time afterwards, the tonic mercurial dose alone being necessary during the intervals of eruption, in my opinion.

In the so-called tertiary stage,—that of profound gummatous lesions of the integument, and interstitial and gummatous changes in the deeper structures, bone, brain, and nerve lesions, etc.,—the more purely gummatous the lesion the more iodic does the treatment need to be, and the less mercurial. All interstitial proliferative changes of the internal organs, however, seem to me to demand mercury in considerable quantity when these changes are progressing, in moderate doses when they are fading, and a mixed treatment for a certain period afterwards,—the longer as the lesion has been more severe and more difficult to master. After a cure is reached, the iodides may be dropped and mercury alone employed in a tonic dose as formerly for a considerable period to terminate the treatment.

The object of this last course is, if possible, to clinch the cure and guard against relapse. My observation has tended to convince me that, however powerful the iodides are in controlling symptoms, they have much less ability to ward off relapse than mercury. I endeavored to bring out this point in an essay on the treatment of syphilis read in this city before the Centennial Medical Congress in 1876,* and must refer any one interested to that source for information as to the grounds upon which the belief is founded.

Finally, for those mysterious after-attacks, eruptions, ulcers, bone and joint affections, brain and nerve lesions, which come on in some cases long after all symptoms have disappeared and all treatment has been intermitted,—these usually require a prolonged mixed treatment with iodides in excess. It is my custom, after such attacks have been overcome, to institute a somewhat prolonged simple mild mercurial course, to avert, if possible, further relapse.

The preparations of iodine, especially the various iodides, are more or less useful in all stages of syphilis, but not so useful as the mercurials, except in case of gummatous lesions, where they easily take the first rank. This much may be safely said of the iodides, that they are generally quite actively tonic when digested properly, that under their intelligent use appropriate symptoms disappear very promptly, that relapse of symptoms is not so much interfered with by them as by a properly directed mercurial course, that as a rule they influence the earlier symptoms of syphilis much less than the later symptoms.

Another point about the iodides is this: the more destructive and severe the early symptoms of syphilis, the more good do they receive from the iodides. Malignant syphilis, serious throat and mouth ulcerations in early secondary disease, bone and nerve lesions in secondary syphilis, yield more promptly to a mixed treatment with iodides in excess than they do to mercury alone, as a general rule. After such lesions have been subdued by a mixed treatment, I think it is well to return to a simple mercurial course while awaiting further developments. An objection to using iodides early in syphilis, unless there is some

* Transactions of the International Medical Congress, Philadelphia, 1876, p. 726.

special call for their employment, is that by so doing we squander our resources. Some patients grow acclimated, as it were, to the iodides, just as they do to quinine or tobacco. They sometimes become unable to digest it, but more often grow used to it, so that when it is required no ordinary dose suffices, and the patient's stomach suffers, or his skin, or his kidneys. I have known a patient who at one time could tolerate very large doses of the iodides become incapable of taking a dose of one grain without having his stomach upset and at once showing purpuric spots on both legs below the knees. The case is, of course, exceptional, but it represents a class. The iodides are too valuable to be played with; therefore it is better to trust to mercury, which does the work well, and to hold the iodides mainly in reserve for emergencies and for especially severe symptoms.

Some patients, on the other hand, cannot take mercury into the stomach without experiencing great depression or suffering some physical discomfort. Such patients sometimes tolerate very kindly a little mercury taken through the skin by inunction in the shape of one of the oleates, or, better still, in the form of corrosive sublimate dissolved in alcohol, a quarter to half a grain in the drachm, spread over the surface of the body once a day and allowed to dry in. I have one patient who is seemingly depressed even by this form of mercurial medication. Many patients cannot digest one form of mercury (the protiodide, for instance) who do perfectly well on some other form, blue pill or bichloride. Where the iodides cannot be taken at all, as in two cases I have seen where extensive bullous and fungating eruptions were caused by their use, and in such cases as the remarkable one recently reported by Pellizzan,* where it causes eruptions of bullæ, of which many cases have been reported of late† (Bradbury, Virchow, Boinet, Bumstead, Ringer, Cazenave, Hutchinson, Taylor, Fournier, Duhring, Hyde, Van Buren and Keyes, Otis, Tilbury Fox, Finny, Duckworth, Farquharson), or where severe iodism ensues, an attempt should be always made to educate the stomach up to a capacity for digesting the iodides, so that the latter may be employed in case of

need. This I have succeeded in doing in a number of instances by using mild iodides first (especially the iodide of starch), in combination with diuretics (acetate of potash, Bethesda water).

Farquharson believes that defective kidney elimination is the most efficient cause of iodic eruptions; and Pellizzan agrees with him. In this connection it is well to recall Atkinson's‡ admirable article on the effect of the iodides in producing and maintaining kidney congestion and giving rise to occasional hæmaturia and to the appearance of casts and of albumen in the urine. In these cases Atkinson customarily found oxalate of lime in the urine. Imperfect elimination of the iodides has doubtless much to do with occasioning the kidney congestion, with albumen and casts in the urine, sometimes encountered during a course of the iodides. I have noticed it a number of times, but I do not regard it seriously, because I have always observed the albumen and casts disappear after the iodides have been given up.

The very excellent method of giving the iodides to which Seguin§ has lately called attention is worthy of extensive trial. I have found it of considerable service. It is simply this: to give the iodide without syrup in a feebly-alkaline solution and upon an empty stomach. The best vehicle seems to be a draught of artificial Vichy water. Many patients will be much less disagreeably affected by the iodides taken in this form than in any other that I have employed.

The iodide of starch is a preparation that needs further trial. The best in common use is made from raw wheat starch by what is known as McCall Anderson's formula. I have had some made by the same formula, using cooked rice starch. The product promises well as a substance reasonably easy of digestion and producing palpable effects. Whether the rice-flour iodide is better than the wheat-starch iodide, I cannot say. The iodide of starch is by no means so powerful or so useful as the iodide of potassium or the iodide of sodium, where the latter agree with the stomach.

My time has expired, and I can only refer, by mentioning them, to two very important facts in the treatment of syphilis in any of its stages: they are the serious

* Archiv. of Derm., 1881, July, p. 264.

† Fox, Hutchinson, and Thin have each seen a death occur during the bullous form of iodic eruption.

‡ Am. Journ. of Med. Sci., July, 1881, p. 17.

§ Archives of Medicine, August, 1881, p. 34.

evils of over-treatment and the great value of local treatment for isolated lesions. Excess of mercury is bad, very bad. To it is due the bad reputation which mercury has in the eyes of the community at large.

Excess of the iodides is equally bad, if prolonged. It thins the blood, produces purpura, deranges the stomach, and may (possibly) injure the kidneys. I have known the symptoms of nervous syphilis to be indefinitely prolonged by maintaining high doses of the iodides, and to cease when the treatment was changed.

Moderate treatment should be the aim; moderate treatment used for a long time.

Finally, local treatment is of much use. Rather than run up the treatment from the tonic to the full dose, if there are persistent mouth, throat, palmar, or cutaneous isolated lesions, it is, I believe, much better to continue the moderate dose of the mercurial, and by the local use of stimulating mercurial applications to hasten the disappearance of the lesion which is annoying the patient and keeping his attention concentrated upon his malady.

CITRATE OF CAFFEIN IN CARDIAC DROPSY.

BY F. H. MILLIKEN, M.D.

DURING my term of service as resident physician in the Philadelphia Hospital, the use of citrate of caffein was suggested by Dr. James B. Walker in the treatment of a case of cardiac dropsy then in the medical wards. The result obtained in this case induced me to make a further trial of the drug.

I will present the histories of several cases treated in this way.

Case I.—Mrs. M. M., 33 years of age, tailor-ess, was admitted to the Philadelphia Hospital May 27, 1880. She was in good health fifteen years ago, when, after a severe wetting, she was attacked with articular rheumatism, the disease involving in succession the larger joints of the body, leaving many of them distorted. This, her first attack, lasted four months. Her joints slowly regained their proper proportions, so that she was able to earn her own living for six years, when, after exposure, she was again attacked with rheumatism. This attack lasted two months, and left the joints swollen and distorted, resembling rheumatoid arthritis. She noticed nothing wrong with her heart after these attacks. Two years ago, rheumatism again set in, due to overheating herself in a cold room.

This attack lasted two weeks, was not so severe as the others; and, on account of poverty, she did not seek advice. She soon complained of fluttering and pain at the heart, and shortness of breath. A physician told her she had heart-disease, for which she sought treatment in the hospital.

I did not see her when she first came in; but the nurse and the patient both told me that the lower extremities were swollen. One week before she entered hospital, she could not walk a block without being compelled to rest on account of palpitation of the heart and dyspnœa. Her feet and legs were distended, and the abdomen half full of fluid, the dulness on percussion extending to the umbilicus. The lungs were comparatively free of râles, but dyspnœa was marked; the face was pale and puffy; the extremities cold; the pulse weak, compressible, and irregular. On examining the heart, the aortic valve was found healthy, the pulmonary healthy, but the sound accentuated; a loud mitral regurgitant murmur could be heard, and with care a presystolic murmur could also be detected. The urine was scanty and high-colored; no albumen; bowels constipated. The patient could not rest in the horizontal posture, on account of dyspnœa, and was compelled to sleep in a large arm-chair. Her sleep at night was broken by dreams, sometimes of a frightful character. Naturally she was sweet-tempered and kind, but at times she was so irritable that quarrelling was the order of the day.

In the treatment of the case, digitalis was given in increasing doses. This steadied the heart somewhat, but did not affect the dropsy. Squill, hot-air baths, jaborandi, hydragogue cathartics, pricking the legs with needles, and like means were tried to get rid of the fluid, and with some little success; but the treatment was so exhausting to the patient and so generally unsatisfactory that it was abandoned. At this stage of the case Dr. Walker advised the use of caffein, three grains three times a day.

No good result was noticed until the second or third day, when, to my surprise, I found the heart more regular and quiet, and the patient said she felt better and was passing more water. The dropsy soon commenced to disappear, her legs were not so tense, the abdomen was not so distended, and the line of dulness was lower. The dyspnœa was no longer a cause of anxiety. The heart was now beating 120 to the minute, but was still irregular. We now resumed the digitalis,—still continuing the caffein,—and by its means brought the heart down to 96 per minute. The patient was now able to sleep in a semi-horizontal position, and was no longer disturbed by dreams. The rest of her history is, unfortunately, soon told, for, on attempting to rise to meet me at the door of the ward, she fell dead.

Case II.—Michael S., 30 years of age, laborer, family history good, was admitted to Philadelphia Hospital June 12, 1880. Had pneumonia three years and syphilis five years ago; never had rheumatism; had not been a hard worker at any time in life; had been complaining of pain and palpitation of heart and dyspnœa for a year and a half. He never noticed any swelling of the feet or face until April, 1880, when he found his shoes were getting too tight to wear with comfort. He had had slight swelling of the eyelids four or five times, but this soon passed away. His legs were swollen, measuring at thigh twenty-six inches and at calf seventeen inches, painful on pressure, and pitting easily. The abdomen was distended with fluid, measuring forty-one inches in circumference, the dullness on percussion extending to one inch below umbilicus. Bronchial râles were plainly heard, and the breathing was labored. The heart was irregular and the impulse weak; the aortic valve was normal; the pulmonary sound accentuated, but otherwise healthy; the mitral valve was diseased, and a loud regurgitant murmur could easily be heard. The pulse was weak and compressible, beating 130 per minute. The face had a bluish cast, and the extremities were cold. The bowels were constipated. He passed more urine than natural, pale in color; no trace of albumen.

This man was put on caffein, three grains four times a day; and, as the bowels were constipated, a pill containing one-eighth grain elaterium and one and one-half grains extract hyoscyamus was given twice a day for several days. This soon produced profuse watery passages, and tended to promote the rapid absorption of the caffein by emptying the blood-vessels. A note taken two days later showed the heart more regular, the dyspnœa improved, and the œdema slowly disappearing, and the patient feeling decidedly better. He was then given tinct. digitalis, gr. xx t. d., and the caffein continued. I was away from the hospital for three days, and during my absence no note was taken of the case. When I returned, his heart was irregular but still improving; pulse, 102 per minute, compressible, but stronger than it was; dyspnœa very slight; extremities warmer. Abdomen measured thirty-six inches in circumference, thigh twenty-four inches, and calf fifteen inches. The man continued to improve, and at the end of two weeks he left the hospital to go to the country. Since that time I have not seen or heard of him. A note taken at the time of discharge showed a mitral murmur, but the heart greatly improved; no dyspnœa; sleeps and eats well; the bluish hue of face gone; temperature of extremities natural; swelling of the abdomen and feet almost gone; bowels regular, and feeling better in every way.

Case III.—Miss J. R., 23 years of age, shirt-maker, came to the medical dispensary

of the University of Pennsylvania, August 4, 1881, on account of palpitation of the heart, dyspnœa, and swelling of the lower extremities. She had complained of palpitation and dyspnœa for three years, but never had any swelling of her legs until July, 1881. She had rheumatism one year before this. She complained of weakness and fainting; had no sickness of stomach or headache; no pain in back or pain on micturition, but passed large quantities of pale urine; bowels regular. Extremities were always cold. An examination of the chest showed the apex-beat to be in the sixth interspace, a distinct impulse in the second and third interspaces, and pulsation in vessels of neck. Auscultation showed the aortic valve to be healthy, pulmonary sound accentuated, but the valve otherwise healthy, and the mitral valve diseased, a systolic and presystolic murmur being heard. The left auricle was hypertrophied; pulse irregular,—160 beats per minute. The legs were swollen with fluid, were painful, and pitted on pressure. She could not walk any distance, on account of dyspnœa and palpitation. Appetite poor; does not sleep well, and feels miserable. Urine was ordered for examination. Prescribed Basham's mixture, fʒij, and tinct. digitalis, gr. xx, three times daily.

August 10.—Patient reported herself somewhat better; heart was quieter, but still irregular; œdema not improved; no albumen could be detected in urine. Discontinued Basham's mixture, and gave, in addition to the digitalis, citrate of caffein, gr. iii, three times a day.

August 19.—Much improved. Heart more regular; dyspnœa very slight; swelling of legs and feet entirely gone, and feeling better in every way.

When this woman came to the dispensary, she was wearing large slippers and loose stockings; and when she reported on the 19th of August, she was wearing a close-fitting and neat shoe that had been worn before there was a sign of dropsy. Shortly after this my attendance at the dispensary ceased, and I have not seen the patient since.

I have tried caffein in several cases of dropsy having a renal origin, but have met with no success whatever.

3614 WALNUT STREET.

CYSTITIS.—R. Acidi benzoici, sodii biboratis, ʒʒ gr. x; inf. buchu, ʒij. This amount three or four times a day.—A. J. C. SKENE, M.D.

This may almost be called specific in its influence in the earlier stages of cystitis, affording rapid and lasting relief. The diet should be carefully regulated, and the skin and bowels kept in active condition.

EXAMINATION OF INDIANS AT THE GOVERNMENT SCHOOL IN CARLISLE, PA., FOR ACUTENESS OF VISION AND COLOR-BLINDNESS.

BY L. WEBSTER FOX, M.D.

THIS examination was made with a view to ascertain the relative standard of vision and defect of color-sense among Indians. Snellen's test types were used, and the color-test similar to the one advocated by Dr. William Thomson. Each eye was examined with the ophthalmoscope.

Twenty-seven different tribes represented, comprising 161 males, 89 females, their ages ranging from 8 to 22 years.

The following is a tabulated form of the results of the observations:

Catarrhal ophthalmia . . .	10
Keratitis	2
Phlyctenulæ	1
Pterygium	65
Post. choroiditis	20
Strabismus conv.	1
Opaque nerve-fibres	2
Persistent hyaloid artery	1
Emmetropia	237
Hypermetropia	4
Myopia	6
Astigmatism simp. hypermetropic	3

In a large school of this kind frequent outbreaks of catarrhal ophthalmia occur, especially as new pupils are constantly being admitted from the reservations. Once being manifest, the disease is easily communicated. At present it is limited to the recent arrivals from Colorado.

The large number of cases with pterygium—thickened and elevated portion of the conjunctiva of the eyeball, in nearly all cases limited to the inner canthus—is due, no doubt, to the constant exposure to the sun, sand, and alkali-dust; and is not limited to one tribe particularly, but found more frequent among the South-west Indians.

Posterior choroiditis limited to the temporal sides of the optic disks, crescentic in shape, with slight deposit of pigment. This disease was observed principally among those who had attended school for over two and a half years.

Those afflicted did not have the acuity of vision that existed among those without the disease.

Optic disks full, and the absence of physiological cups was striking: only in a very few cases, among the Creeks, were

they to be seen. Retinal vessels and pigmentation of choroid similar to those seen in dark-complexioned persons.

Opaque nerve-fibres and persistent hyaloid artery typical.

The large number of emmetropes remarkable. It was found that not only $\frac{3}{8}$ was read with accuracy, but the letters of $\frac{3}{8}$ discerned. Four cases of low degrees of hypermetropia, none above 2D; six of myopia, and three of simple hypermetropic astigmatism.

Color-blindness existed in three cases, two being half-brothers, sons of a Cheyenne chief, having different mothers, the third of the Sioux tribe.

The color-blind examination was conducted as follows. Wools of different shades used. In the first test a pure pale green was given, and all pale shades of this color were expected to be placed side by side with the sample. If a mistake was made, for example, gray or buff, mauve or pink, added to the green, the person was deficient in color-sense. To determine whether he was a red- or green-blind, the second or rose test was given; if to this were placed dark blues or violets, and scarlet with dark greens or browns, the person was red-blind, while those matching the rose with grays or greens, and scarlet with light browns or greens, were green-blind. The cases found were pronounced, none standing in a position intermediate between the two groups. Small pieces of colored papers 1 mm. square were recognized at one-third greater distance than by whites.

Color-blindness is associated with an inferior average of intellectual power among whites, as statistics show that the higher the degree of intelligence or social standing the less amount of defect is found. Among the Eton College boys (England) 2.5 per cent., and in deaf-mutes of this city 10 per cent., while among the deaf-mutes of England and Ireland I found 13 per cent. of pronounced cases. Of 161 male Indians tested, 1.8 per cent. found. In female deaf-mutes and Indians the percentage did not exceed that already found by other investigators,—0.4 per cent.

This defect may exist in any person, as an accidental variation due to a developed defect, either in eye or brain, also that its slightest forms might be due to a lack of education in infancy. There can be no doubt that we can account in this way for the higher acuteness of color-vision among

females, their tastes and earlier development of the observing faculties leading them to an earlier mastery of color, and, as with females, the Indians of both sexes have for ages paid great attention to colors, their war-paints and ornaments, bead-work, etc., being of pronounced tints.

The acuteness of vision of nomadic tribes has long been noted. In this school the few that were deficient were found among the semi-civilized Creeks.

The result of this examination shows that education has a tendency to make peoples short-sighted (myopic), and that color-sense can be developed.

The first evidence of progressive myopia is posterior choroiditis, and this is made manifest by subjective symptoms.

Posterior choroiditis begins by hyperæmia of the choroid, and nearly always of the optic nerve, and it is at this point—*i.e.*, where the choroid surrounds the nerve on the temporal side—that we find it.

Owing to inflammatory action, intraocular tension is necessarily augmented, and the sclerotic, which participates with the pathological process, loses its power of resistance, yields, and the length of the eyeball increased, myopia consequently developed.

It has long been known that myopia occurs with unusual frequency among inhabitants of certain countries. Some writers have considered it mainly due to the type of frontal or cranial development, others to excessive employment of the eyes at near work. Pupils examined at different times show progressive myopia to an alarming extent, and so long as the exciting cause—undue application of the eyes in badly-illuminated and poorly-ventilated school-rooms—is kept up will we develop a nation of myopes.

The Creek Indians, who are by far the most civilized, show this commencing defect, while the Sioux, Kiowas, and Modocs are free and have escaped all taint of myopia.

As it is now well known that forty males in every thousand are pronounced color-blinds, and that education can lessen this defect, it should be made part of the curriculum of primary schools to have pupils daily taught to assort different colors, as well as to have their surroundings of brilliant tints. Educate the color-sense. Color-blindness in practical life becomes a very weighty matter. The colored lights that

are used as railway and maritime signals happen to be those that the majority of color-blinds are deficient in,—red, green, and white; and recent investigations of accidents have induced the impression that not a few are caused by the color-blindness of engine-drivers or lookout-men. We have but little doubt that our government will sooner or later follow the example of others, and demand a systematic examination of the color-vision of all persons entering such services.

Résumé.—Certain diseases exist among Indians due to climatic influence.

Acuteness of vision is better as a whole than among whites.

Errors of refraction and intraocular disease developing among the elder pupils (those that have attended school for several years) and among the semi-civilized tribes, showing that excessive employment of the eyes in youth to near work has a tendency to develop myopia.

Indians are less subject to color-blindness (males 1.8 per cent.) than any class of peoples thus far examined, and their acuity of color-sense is attributable to an earlier education of color in infancy.

Peculiarities.—The palpebral aperture smaller than in whites, as well as an apparent diminution in the size of the eyeball, which is also deeper in the orbit, flatness of the cornea, shallow anterior chamber, and smallness of the pupil.

1322 SPRING GARDEN STREET.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINIC OF DR. LOUIS A. DUHRING, PROFESSOR OF DISEASES OF THE SKIN.

Reported by HENRY WILE.

EPITHELIOMA OF THE SKIN.

A WOMAN, about 55 years old, has a small ulcer on the right side of her nose. It is very superficial, about twice as large as a split pea, and covered with a very slight crust, beneath which can be seen a scanty secretion that presents a glazed appearance. The ulcer is irregular in outline, sharply defined, possessing a distinct and slightly elevated border. The base is of a light-red hue, and slightly uneven. Altogether, there is little excavation. It has existed for three years, developing from a mere scratch or accidental abrasion of the surface of the skin.

The patient states that there was no papule of any sort at the seat of the lesion, and that there was no pain or itching experienced at any time.

The diagnosis is easy. It is a case of epithelial cancer of the skin, and, being superficial, and of a very mild type, easily curable. In the treatment of this disease, the object is to remove the diseased part. This may be done by means of the caustic, the knife, or the curette. The use of the last is, I think, especially indicated in this case, as the lesion is of a very superficial character.

This mode of treatment was introduced ten years ago by Volkmann, of Halle, for the removal of all superficial new formations, and has been extensively employed in lupus vulgaris. The idea was somewhat ridiculed at first, but after a time the good results were so apparent as to cause this mode of treatment to become more and more favorably recognized by practitioners. It has been employed in this clinic very often, and generally with good effect. The pain is not so severe as one would suppose, and the operation is attended with but little hemorrhage. As has been already said, the superficial character of the lesion renders it well adapted to this mode of treatment, as does also the fact that there is little inflammatory areola. The philosophy of the operation is plain: it is a simple removal of diseased tissue, leaving only a healthy ulcer, which will heal rapidly by granulation.

SCROFULODERMA.

A young man, 21 years of age, and printer by occupation. He gives the following history. His health was formerly good: there is no family history of tuberculosis. Last winter he began to suffer from a severe cough and loss of flesh. In the spring he began to spit blood, and, being examined by a physician, was told that he had a cavity in one lung. No chancre or other skin disease previous to the present lesion. This first showed itself last Christmas in the form of a large swelling over the back of the right hand, with pain in the little finger and ring finger. The middle of the swelling gradually rose above the surface, and remained as a bright red swelling, without suppuration, for several months. At the end of that time (May last) the patient began to poultice and paint it with iodine. After a month

of such treatment a pin-hole-sized orifice made its appearance, from which a little pus could be squeezed out. This hole was followed by the appearance of others, until by an incision the ulcer assumed its present form. It is now about one inch long and three-quarters of an inch wide, has an irregular, red, and slightly elevated border, and the inflammation gradually shades off into the surrounding healthy skin. The surface of the ulcer is of a bright scarlet color, and covered with a puriform secretion. Through the centre runs a shallow groove, which is filled with a yellowish secretion, and on the right side of this groove the surface is somewhat higher than on the left. Generally it has a smooth and velvety appearance.

LUPUS VULGARIS.

A girl, 15 years of age, of Italian parentage. We notice that the lesions are remarkably extensive, being spread over the right cheek, and extending on to the neck and thorax, and down the left thigh and leg to the ankle.

The disease in this case had been of ten years' standing, having begun on the right side of the face. Three years after the onset the disease made its appearance on the left knee, and subsequently it extended both upwards and downwards. We see traces of extensive lesions on the neck, where the glands are involved and numerous scars are apparent. The patient states that there was more or less discharge from these glands, especially during the winter. It is unusual to find the glands affected in this disease.

Six months ago, when the patient first came to us, the lesions were discrete and confluent, in some places of a dull red color, in others of a reddish brown. On the face we noted several small split-pea-sized tubercles, covered with thin scales; while on the neck, besides the discoloration, there were several ugly cicatrices.

On the left leg, from thigh to ankle, there were extensive lesions in the form of a copious eruption, characterized by variously sized flat tubercles, disseminated and grouped, isolated and confluent, forming variously sized patches, some of which had already broken down and were slightly crusted; others had gone on to further change, and partial cicatrization had taken place. In some of the old scars we noticed new lesions appearing; while we also observed in the leg, besides a more or less

excoriated appearance and crusts, an hypertrophic condition, resembling elephantiasis. This is a rare complication in lupus vulgaris.

At this clinic lupus vulgaris occurs chiefly on foreigners. • It is common in Southern Germany and Italy, Austria and France, but is rare among native Americans.

The lesions in this case were almost too extensive for local treatment at the clinic, and at first we gave small doses of iodide of potassium,—two or three grains three times a day. This treatment was kept up for the past six months, and with very good results. During the summer months there was some extension of the disease on the lower jaw, which went on to suppuration and is now in the process of healing. Altogether the appearance of the lesions is much improved, the lesions on the face being not so well marked as those on the thigh. There is not so much swelling and thickening as there was, and the color is also not so dark.

Iodide of potassium is a valuable remedy in lupus vulgaris, and its administration is often attended with good results. It generally acts better in small doses of three to five grains than in larger ones of ten to fifteen grains.

Where the lesions are so extensive as in this case, local treatment is almost out of the question, on account of the difficulty of carrying out the same. Were the patient in the hospital, however, we should of course employ local treatment. When, however, new lesions make their appearance, we must attack them at once, and there is no better way than by means of a curette.

The iodide of potassium will be continued, and during the winter the patient will be put on cod-liver oil.

EPITHELIOMA OF THE NOSE.

An old man, 70 years of age, with an epithelial cancer on the left side of the nose.

Having the history of the case, I will present it briefly, presenting as it does some peculiar features.

The patient came here in 1877 with a sore on his upper lip. The diagnosis was epithelioma. It was treated with caustics, and healed readily. In 1879 he came again with two lesions, one under the left eye, and one on the right cheek. These

were treated with caustic potash, and likewise healed. In 1880 he presented himself a third time, with a new patch of disease, which was excised. All the formed scars remained healthy, and in none of them did a recurrence follow. The present lesion has appeared in an entirely new place, and has existed, according to the patient, about four months. It is a little larger than a pea, is somewhat irregular in shape, but sharply defined and surrounded by a raised border, which shows the disease is extending and the neighboring tissue is becoming infiltrated. On the right side of the ulcer, just within the border, is a small tubercle. The ulcer is covered with a dirty yellowish crust, which I will remove to see the condition of the base. The base is moist, and gives evidence of having secreted freely. The surface is quite smooth and even, but the induration is marked.

The treatment is obvious: the diseased part must be removed. This may be done by means of caustic, knife, or curette. In this case I will use the curette or scraping-spoon, which is efficient where the lesion is not extensive or deep-seated, as in this case.

TUBERCULAR SYPHILODERM.

A man, about 40 years of age, presents an ulcer on the nape of his neck. It is about three inches in diameter, nearly round, and in a state of deep ulceration. The ulceration extends deep down, involving even the trapezius muscle. The central part of the ulcer has a smoky brownish-red color, while the peripheral parts are of a brighter red.

The surface is uneven, being deeply excavated in the centre, the excavation being fully two inches in diameter. The periphery of the patch is more or less regular in outline, and is studded with variously sized tubercular patches.

The ulcer is sharply circumscribed, has a raised border, is covered with a copious secretion, with but little crusting, having been recently covered with ointment. The lesion first made its appearance in the year 1872, in the form of a pea-sized tubercle. This gradually grew larger and larger, being better and worse from time to time, and probably not being recognized, and consequently not properly treated, developed into its present condition.

The patient states that for the last six

months it has been steadily growing worse, having used all kinds of ointments without apparent benefit. It is a marked case of tubercular syphiloderm. The history in such cases is often obscure or impossible to get at, as the cutaneous eruption follows the initial lesion late, there being frequently an interval of five, ten, or even twenty years. The treatment will consist in the administration of the iodide of potassium in large doses for three weeks, after which time I will combine with the iodide of potassium the biniodide of mercury. Under this treatment the patient will entirely recover.

Locally, I would advise the following ointment :

R Hydrarg. præcipitat. alb., gr. xx ;

Ung. zinc. oxid.,

Vaselin., aa ʒss.

Misce : fiat unguentum.

Sig.—Apply twice daily.

I would also advise patient to wash the ulcer once daily with Labarraque's solution.

PHILADELPHIA HOSPITAL.

SERVICE OF H. C. WOOD, M.D.

Reported by JAMES P. TUTTLE, M.D.

CLOT, WITH SECONDARY SOFTENING.

JAMES DOUGHERTY; admitted October 15, 1881; æt. 30; Irish; a mechanic by trade. He had been working in a rolling-mill. Last April he noticed his appetite failing, and also that he was becoming "short of breath." The latter symptom increased until he was unable to work on account of it. About seven weeks since, while sitting on his bed, in daytime, patient fell unconscious to the floor, in which condition of unconsciousness he remained until the following day. When he recovered consciousness he found himself unable to use his left arm and leg. Upon admission, he was unable to use either left leg or arm at all. When he was admitted, the muscles of arm and leg were relaxed, the cardiac rhythm was very irregular, and the sounds feeble, especially the first. Percussion-area was abnormally enlarged and the apex-beat diffused.

The joints of the paralyzed limb were not red or swollen, but they were tender to touch, and the knee-joint anteriorly somewhat puffed up. Neither face, tongue, nor palate showed any sign of palsy.

Up to time of death (December 4) patient's conditions were unchanged. Paralysis of arm and leg remained complete, with no evidence whatever of rigidity developing in the muscles. Charcot's "ankle clonus" was not at any time present. The intellect was unimpaired up to time of death, a few minutes before which he was complaining of the patient next him snoring so that he could not sleep. At 4 A.M., December 4, when nurse emptied his urinal, he complained of some pain in his stomach. It was not severe, however, and he did not wish the resident physician sent for; but at 4.45 the nurse, in making his rounds, found him cold and dead, neither of the patients next him having heard or seen a struggle, although both awake.

Post-mortem.—Abdominal organs and lungs normal. Cardiac tissue soft and flabby, with evidences of fatty degeneration. The right ventricle considerably dilated, but with no marked lesion of the valves. The brain showed no evidence of meningitis or effusion; neither were there any lesions of the cerebral convolutions, cerebellum, pons, or medulla observed; in the right lateral ventricle a large centre of rusty-colored matter, involving in its superficial area the corpus striatum, tænia semicircularis, and optic thalamus. On section, it proved to be softening, and involved the central portion of the caudate nucleus, the entire breadth of the internal capsule, and the anterior superior portion of the lenticular body. The softening did not extend into the convolutions nor into the other ventricles, which all seemed normal.

BONY DEPOSIT IN THE FALX—SOFTENING IN THE PONS VAROLII.

E. E. H.; colored; æt. 74; cook; admitted to hospital (paralytic ward) January 27, 1881. Had gradually but steadily lost power in his left leg and arm. At time of admission, loss of motion on that side was complete. Sensation was impaired but not destroyed. There was no incontinence of urine nor involuntary passages of fæces. Patient ate well until within a few days of death. Up to this time there was no change in his condition, except an uncontrollable tendency to ulceration from the slightest abrasion on the disabled side. He was able at all times to use his right arm and leg, and at no time was there any symptom of affection of that side. He

died, without a struggle, a few minutes after being put to bed, December 18, 1881.

Post-mortem examination showed heart, lungs, and abdominal organs normal. There was some distention of the sinuses and veins of the meninges, and the Pachionian bodies were very prominent. There was some but not a large amount of effusion under the arachnoid. In the falx cerebri there were found embedded four pieces of bone. The largest of these was pyramidal in shape, with flat base, three-quarters by one-quarter inch; its edges serrated. Its height was about one-quarter inch, its surface smooth, and its top directed to the left side in the anterior region of the convolution of the corpus callosum. The others all resembled it in shape, and were situated on about the same level, with their bases to the right and the tops all pointing to the *left hemisphere*.

The arteries at the base of the brain were atheromatous and brittle, but no rupture or embolic stoppage of them was discovered. In the lateral ventricles there was some effusion, more marked in the anterior and descending horns of the right side. Over the floors of the lateral and fourth ventricles there was seen a granular excrescence resembling boiled sago. Otherwise, the cerebrum and the nuclei at its base were unimpaired, as were also the cerebellum and medulla oblongata. The most superficial transverse fibres on the right side of the pons were slightly discolored, and longitudinal sections of that body showed a centre of brownish-colored softening. Beginning just below the tubercula quadrigemina, it spread over almost the entire anterior width of the pons for one-half of an inch downwards. On the extreme right side it involved the tuber annulare proper to the depth of three-eighths of an inch, but, as it passed over to the left side, it extended less and less deeply, till it involved only the transverse fibres of the pons proper, thus forming a wedge-shaped centre of softening, with its butt to the right and its edge to the left side of the anterior surface of the pons Varolii.

COMMUNICATION OF SYPHILIS BY SKIN-GRAFTING.—At a recent meeting of the Société Médicale des Hôpitaux de Paris, M. Féréol related the following curious instance of the above:

A man, aged 49, suffered from gangrenous

erysipelas of the upper third of the left thigh, which left a large obstinate ulcerating surface. On March 7 M. Doubel, the surgeon in charge, applied forty-five pieces of skin, taken from five different persons, to the outer part of the sore. Thirty-three of the grafts adhered. On March 18 twenty-eight grafts, taken from the buccal mucous membrane of a rabbit, were applied, but failed. On March 23 forty grafts, supplied by seven persons, were placed on the internal portion of the ulcerated surface. Thirty of these were successful, and cicatrization was proceeding rapidly, when, on April 5, a grayish ulcer appeared at the site of the first grafting. Other similar ulcers quickly followed, and in three days involved the whole of the cicatrix. About ten weeks after the first series of grafts had been applied (May 19) a copious roseolar rash appeared, and was soon followed by crusts on the hairy scalp and mucous patches in the mouth. About this time the son of the patient, who had furnished part of the grafts on both occasions, consulted M. Doubel, who subsequently discovered that the young man had a chancre eighteen months before, which had not been attended to.—*Medical News and Collegiate Herald*.

A DOME-TROCAR CATHETER FOR TUNNELING THE PROSTATE, ETC.—Dr. Simon Fitch, of Halifax, in describing a new dome-trocar catheter, says (*New York Medical Journal*), "The main object intended is to make a direct channel through the enlarged prostate, instead of nibbling off fragments of the gland through the floor of the urethra, as is attempted by several contrivances. It will likewise be found most efficient for puncture of the bladder from the rectum, for discharging noxious intra-peritoneal effusions, for antiseptic washing of the peritoneal cavity through the retro-uterine cul-de-sac, for evacuating and injecting ovarian cysts *per vaginam*; and it will be of immense value in supra-pubic lithotomy by opening the bladder from within outwardly."

This instrument is virtually a catheter within a perforating tube. The perforating tube is of metal, and in shape and size similar to an ordinary urethral catheter: one extremity, however, is sharpened like a quill pen, and is provided with a dome to lift the urethra away from its point. The inner tube resembles the curved end of a catheter, and is rounded and perforated at one extremity. It is so constructed that it can by means of a stout wire be projected beyond the end of the outer tube, when it answers the purpose of an ordinary catheter. When the inner tube is drawn entirely within the outer, the point of the latter is exposed, and it then may be used as a trocar.

LIFE UNDER GROUND.—It has been estimated that in Great Britain 378,151 persons carry on underground employment, working in galleries extending over 58,744 miles.—*Medical Times and Gazette*.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 25, 1882.

EDITORIAL.

CONSULTATIONS WITH HOMŒOPATHS.

THE New York State Medical Society at its late meeting adopted a resolution which allows consultation with all legally-qualified practitioners,—that is, with homœopaths, eclectics, and the swarm of so-called irregular physicians. Revolutions never go backwards; and, although there were only eighty doctors representing the thousands of the New York profession at the passage of the resolution, yet the action is probably final. The secret springs of it are not hard to discern. In New York City there are many wealthy families whose attending physicians are homœopaths, but who might have afforded in the past, and now will afford in the future, sundry well-paid and lucrative consultations to the specialists of the regular profession. The resolution once adopted by the State Society, these specialists will soon intrench themselves behind the walls of habitual practice; and even if the State Society in the future were to desire to dislodge them, the power would be wanting. It is plain that the resolution will bring the New York State Society into conflict with the American Medical Association; but the issue of this conflict can hardly be considered doubtful. There is money upon one side, none on the other. The New York specialist can afford to do without the American Medical Association better than he can afford to forego the dole of some Fifth-Avenue nabob who is under the spell of an unscrupulous irregular. The specialist has some fear of the State Society, but none of the far-distant, almost intangible thing called the American Asso-

ciation, which controls no consultations. Having committed his own Society to a course of action, he can probably hold it; and so long as he can do this, the American Medical Association may censure as it pleases.

The effect of a practice or ethical custom firmly established in such a centre as New York upon the general profession of the country must in the course of years be very marked, especially as interest will draw the medical leaders into sympathy with such metropolitan trade habits. John Jones moving to Philadelphia from New York will smile most grimly at what he calls a provincialism of the profession; lay journals will abuse most roundly the doctors of their own city who are so far behind the times; medical men who have command of editorial columns will write in their own interest articles on free trade in medicine; and the old-fashioned, honest, straightforward physician, who looks upon medicine as a profession and not as a trade, will have his public life made so miserable that he will draw himself into his own private shell and give up the conflict.

INTERNATIONAL ENCYCLOPÆDIA OF SURGERY.

IT is said that Sydney Smith once, when asked about a review of a book, replied, "Of course I have not read the book. When I write a review I try to keep my mind free from prejudice." The reviewer who takes other than Sydney Smith's plan with the huge International Encyclopædia of Surgery, now being published by William Wood & Co., of New York, under the editorship of Prof. Ashurst, of this city, will have little leisure on his hands for some months. The object of this work, says the preface, is to furnish in a comprehensive and yet not unduly extended form a systematic and practical treatise upon all those subjects which are properly considered to pertain

to the science and art of surgery. Comprehensive the six enormous volumes will no doubt be, but whether unduly extended or not may be a question. Yet things are not always what they seem; and those of our readers who were subscribers to Ziemssen's Cyclopædia may be prepared for the publishers' power of making the most of much. The first volume before us is certainly a sumptuous book,—a ponderous royal octavo, with extraordinarily thick paper and excellent clear type; but no thought has been given by the publisher to making the size seem less than it is, or getting two volumes into one. Comparisons are odious; but it may be stated as illustrative that the single volume of the United States Dispensary does not look as large as that of the Encyclopædia, but has in it nearly as much matter as four of the surgical volumes. That a book like the present following directly upon Ziemssen's can be successful speaks very well for the greed and power of the American profession as buyers, as well as for the enterprise and skill of the publisher.

The articles in this first volume are by Prof. S. Stricker, of Vienna; Profs. W. H. Van Buren, F. Delafield, J. Lewis Smith, of New York; Profs. A. Stillé, D. Hayes Agnew, John Ashhurst, and Drs. W. S. Forbes, William Hunt, John H. Brinton, C. T. Hunter, of Philadelphia; Prof. A. Verneuil, of Paris; Prof. H. M. Lyman, of Chicago; Prof. Christopher Johnson, of Baltimore; Surgeon-General P. S. Wales, U.S.N.; and Surgeons H. T. Butlin and C. W. Mansell-Moullin, of London. Certainly an array of names; of course the articles are of unequal value, but all are good, and the whole a monument to the present state of surgery,—a monument upon whose ruins some decades from now the children of the present builders may erect the temple of the perfected art.

BARNUM has an addition to his happy family in the person of a newly-born baby elephant.

FILARIA SANGUINIS HOMINIS.

DR. MYERS, of Takow, Formosa, has recently added to our knowledge of the *Filaria sanguinis hominis* the interesting results of numerous observations made by himself upon filaria-infected patients.* He instituted these examinations, he tells us, at the request of Dr. Patrick Manson, with the object in view of investigating, and, if possible, confirming, the discoveries and observations made by that gentleman. He endeavored, therefore, to determine the proportion of patients affected, noting the external manifestations present,—e.g., elephantiasis, lymph-scrotum, etc.; the periodicity of appearance and disappearance of the embryos; the cause of the diurnal disappearance, the centre of congregation, if any; the effects of "infiltration" of the monkey. After examining a large number of patients, he succeeded in finding but three in whose blood the filaria appeared, neither of whom, however, presented any appearance of elephantiasis or lymph-scrotum. One of these, a boatman (born in Amoy, To Ah by name), he succeeded in prevailing upon to submit to daily puncturing of the skin, for the purpose of obtaining specimens of blood for microscopic examination. This good-natured boatman, To Ah, was placed under a large mosquito-net, and mosquitoes from all parts of the island were allowed to feed upon him nightly. A trough was suspended within the net, and filled with water, upon which the mosquitoes deposited their ova. This water was given to monkeys to drink, no other fluid being allowed them except that contained in the bananas on which they were fed. Frequent examinations of the blood of To Ah showed the presence of the filaria at night and their absence during a greater part of the day. The temperature, taken at each observation, generally rose slightly with the appearance of the embryos, and fell again with their disappearance. The mosquitoes

* Imperial Maritime Customs Report, Shanghai, 1881.

fed upon To Ah were also subjected to microscopic examination, which generally gave only negative results, the half-digested remains of the embryos being all that could be found. The attempts to filariate the monkeys by allowing them to be bitten by these mosquitoes, and by compelling them to drink water upon which the ova of these mosquitoes had been deposited, both failed, the monkeys eventually dying of tuberculosis, a disease common among those kept in captivity.

Dr. Myers expresses the opinion that the mosquito which plays the part of host to the embryo during its development must be of a different species from those found in Formosa, which digest the embryo instead of nurturing it; and to this fact he attributes the apparent immunity of the natives of that island from the filaria.

In concluding his observations, Dr. Myers made a number of experiments upon the filaria with various drugs, such as arsenious acid, salicylic acid, bisulphate of quinia, and santonin, and was surprised to find that a comparatively large quantity was required to destroy it,—sufficient, indeed, to destroy the patient as well.

Dr. Myers's paper is equally valuable and interesting, and reflects great credit upon its author for the untiring zeal and perseverance with which he has followed up the subject. We would suggest that the experiment be made of changing the hours of rest and maximum light by requiring the patient to sleep in a darkened room during the day, and to note the effect upon the appearance and disappearance of the embryos.

IN a late number of the *Medical News*, under the head of "Darwinism in Medicine," an assault was made upon the managers of one of our hospitals for appointing upon the staff a physician whose father and grandfather served for many years with great acceptability in a similar position, and who himself had done much

work in the hospital ward as substitute. The attack would have come with more grace had not the member of the *Medical News* editorial staff whose style the editorial counterfeits been himself an unsuccessful applicant for the position in a recent canvass; but, under the best of circumstances, it is odd to see ridicule of heredity of talent in a journal whose chief editor carries on his father's work so ably as to prove that at least practical ability, if not genius, may descend from sire to son. Surely long ill-requited services do give a man some claims upon a hospital board, as well as upon a publishing firm,—a claim that should not be allowed to usurp the place of merit, but should have its proper weight in the close balance of advantages and disadvantages which often exists amidst rival claimants.

LEADING ARTICLES.

SEWERAGE AND DRAINAGE.

THE history of epidemics in past ages offers innumerable examples of the poisonous effect of that disgusting compound of excreta and refuse matters which has received in modern times the name of sewage, when it is retained in the neighborhood of human habitations. The disposal of sewage has, therefore, long been one of our great sanitary problems, but the results of recent investigations made in this city—which lend support to the theory that the fungous spores or germs of diphtheria (and probably of other contagious diseases, as shown by Pasteur) can multiply in filth outside of human bodies—render this question of paramount importance from a hygienic point of view.

Hence we consider an able and painstaking report on sewerage works in Europe, by Mr. Rudolph Hering, of this city, which forms Supplement No. 16 of the valuable publications emanating from the National Board of Health, a most opportune production, and invite the earnest attention of our readers to the following abstract of its contents.

The two chief methods which human

ingenuity has so far devised for disposing of refuse materials are "dry removal" and "water-carriage." According to the first of these plans, waste products are gotten rid of by removal in mass, either after disinfection or without such precaution; in the second method, sufficient fluidity is secured by adding water to insure the continuous flowing off of the whole mixture through properly prepared channels. The former mode involves the important disadvantage of more or less prolonged temporary storage of excreta, etc., in the vicinity of habitations. Cess-pits, except for isolated rural residences, are always dangerous, and in some European cities are entirely prohibited.

As in certain localities it is difficult or impossible to obtain a supply of water abundant enough for water-carriage, the dry method, although objectionable in some respects from a sanitary as well as a pecuniary point of view, demands a brief notice. The well-known dry-earth closet is an illustration of this system in its simplest form, and Mr. Hering says it can be recommended under certain conditions for small country towns, villages, and isolated dwellings which are without proper water-supply or sewerage. In many cities on the continent of Europe offal is received in tubs, casks, or pails, which are removed at intervals of from one to seven days, an effort being made to prevent the escape of effluvia as well as the access of oxygen, which would promote decomposition. In Paris the "fosse filtre" is still much employed. This consists of a suitable vessel, holding about twelve gallons, so divided by a sieve, which forms a vertical partition, that the fluid matters of the excreta are separated and by a further arrangement are allowed to flow off into sewers. Parisian engineers, who generally favor the water-carriage plan, consider this method a convenient transition, educating the public up from the unmitigated foulness of the common pail system as it is too often met with. In some parts of Southern Germany, however, where the pail—or rather cask—system is exceptionally well managed, it has many advocates, and our author, whilst admitting its comparative safety if the containing vessels are removed at least once in three days in air-tight vans and thoroughly cleansed at the depot, would restrict this mode of sewage-disposal to small towns, houses where water-

closets cannot be used, situations where sewerage would be very costly, and those where surface-drainage is admissible.

Mr. Hering next proceeds to consider water-carriage or sewerage proper. The first sewers in modern European towns were formed by arching over natural waterways, but these, especially after the introduction of a domestic water-supply, often became places for storage rather than conduits for removal of filth, and hence extremely foul and disgusting. Under such circumstances it was suggested in England that the addition of human excrement could not render the sewers any more repulsive or injurious to health, and the convenience of this method rapidly rendered it popular.

It was, however, still opposed, and experience soon proved that unless the channels for the combined filth and storm water were well adapted to their purpose, much better than the average sewer of old times, nuisances were speedily developed. This led to what is now known as the separate system, a plan in which the rain-water and fluid waste were carried off in the old-fashioned large drains, and the excreta and other filth were disposed of through a new and much smaller system of pipes. But in England, especially where the sewers are numerous and the rivers small, such a method of water-carriage for excreta led to so much pollution of the drinking-water that purification of the sewage before it entered the rivers became an absolute sanitary necessity. At first extravagant hopes were entertained that some means could be discovered by which purification could be secured, and at the same time a valuable manure obtained; but at the present time enough experience has been gained to prove that, whilst several modes give good and economical results, none will afford a large profit.

Our author announces himself as a strong advocate for the system of water-carriage as a means for disposing of excreta, etc., claiming that it is capable of answering every economic and hygienic requirement, and asserting that the adverse opinions of prominent sanitarians, such as Dr. Miller, of Berlin, and Winterhalter, of Munich, are based upon the examination of badly-designed or antiquated sewers, which modern sanitary engineers equally condemn. He admits, however, that the question of cost depends very much upon

local conditions, and that dry removal might be more economical in small towns on very steep and irregular slopes, with bed-rock near the surface, or where the site is a long narrow strip on the shore of a wide river, or in an inland town with a very cold climate, and where, from the absence of a large stream, the sewage must be purified.

Coming now to the detailed consideration of the varieties of the water-carriage system, it is to be observed that the "combined method" is intended to remove all the rain-water in conjunction with all the sewage in a single channel. According to this plan, therefore, there is constructed a net-work of sewers of sufficient capacity to carry off all the storm-water, as well as all the waste and excreta, and consequently supplied with inlets on the streets in addition to those in the houses and yards, these inlets being provided with catch-basins, traps, and ventilating pipes.

The sanitary advantages of a well designed, constructed, and maintained system of sewers on the combined plan, are the cleansing effect of more or less frequent flushing by storm-water, and the much better opportunity afforded for inspection and cleaning. The objections to it as urged by advocates of the separate system are that the unequal rapidity of the flow during storms and in fair weather, leads to deposits which choke up the conduits, although this disadvantage can be overcome by building the sewers of an egg-shape in section, and of such a size that the invert radius is about as small as the semi-diameter of a tube which would be half filled by the average current of sewage without any rain-water. The filthy coating of slime, largely made up of microscopic organisms, forms more abundantly upon the inner surface of sewers constructed upon the combined system, but, on the other hand, can be much more readily removed, on account of their larger calibre. Whilst it is admitted that ordinary circular sewers of large diameter cannot be so easily cleansed by flushing as smaller pipes, our author maintains that by adopting the inverted egg-shape form it is quite possible to secure the great advantage thus gained.

Under some circumstances the impure air from the capacious sewers of the combined system will be much greater in amount, so that it is more important that these larger conduits should be properly

ventilated,—a desideratum which should never be sought for by the aid of water-pipes from the roofs of houses. One of the most important objections to the combined system appears to have escaped the notice of Mr. Hering, namely, that the upward pressure of the air, compressed by the inflowing of a large bulk of storm-water, drives sewer-gas through most of the traps in use by plumbers, and pollutes the air of dwelling-houses, often with dangerous or even fatal effect. Finally, when the sewage must be purified by filtration or otherwise, the additional bulk of the storm-water is disadvantageous, although less so than has been claimed.

From an economical point of view, the saving of the combined system is considerable, because the cost of constructing sewers to carry off the rain-water alone will be almost as great, and the expense of an additional set of pipes for sewage will in general far outbalance any reduction upon the pecuniary outlay for the combined plan. Still, when an old system of sewers which has been outgrown by the needs of the community for which it was devised can be utilized, or when the storm-water can be disposed of by surface-drainage, the separate system, which is now on trial upon a large scale at Memphis, Tennessee, may prove highly satisfactory.

This separate method is offered for our examination in three forms, denominated respectively the Ordinary, the Shone, and the Liernur. The ordinary variety is that of dividing the sewage from the bulk of the storm-water by allowing each to flow in its own set of pipes. Mr. Shone, of Wrexham, England, proposes to modify this plan by using compressed air to lift the sewage over obstructions, or to higher levels when necessary. His suggestions are still *sub judice*.

The Liernur method is simply an extension of the principle used by our own Odorless Excavating Company, the pipes being permanently laid in connection with a central receiver kept exhausted by a steam air-pump. The peripheral extremities of the sewers are kept closed by means of barometrical traps so arranged as to leave only enough sewage in the tubes to seal them. This in itself would be enough to condemn the method, unless obviated by automatic flushing apparatus; but the plan is said to be in successful operation in some towns of Holland. Its cost would

probably confine it to a few localities where the level surface is an obstacle to procuring sufficient grade for common sewers, such, for example, as is found in the site of New Orleans.

In comparing the value of these different methods of sewage-disposal, our author concludes that either, if properly instituted and efficiently managed, is capable of fulfilling the chief sanitary requirements, and that the choice of a system for any particular locality will therefore depend in great measure upon the relative cost, under special local conditions modifying their construction and maintenance. Frankfort, London, and Berlin furnish good examples of the "combined system" of "water-carriage;" Oxford and Reading, in England, and Memphis, in our own country, illustrate the "separate system;" whilst the best working of the "Liernur" plan may be seen in Amsterdam.

Mr. Hering devotes several pages of his exhaustive essay to describing the designs and construction of sewerage-works under the three diverse conditions,—1st, that the sewage is to be discharged into a large river, near its mouth, or into the ocean; 2d, that it undergo purification at or near its outflow; and, 3d, that it is to be immediately disposed of at this latter point. The alignment of sewers must, of course, depend upon the inclination of the ground, as when a town is built upon both sides of a river, a large intercepting sewer upon either bank, receiving smaller tributaries with "radial" terminal branches, will suffice. The smallest size for common sewers on the continent is eight inches, and from this diameter up to twenty inches vitrified pipe is used. Above this magnitude there is a sudden increase to conduits sufficiently large for a man to enter, and any further increment is proportioned to the estimated amount of fluid to be transported. In calculating the calibre of a system of sewers on the "separate" plan, the sewage is assumed to equal the water-supply of the town. In the combined system provision must be made for the maximum rainfall in addition, and the formula of a Swiss engineer, Mr. Bürkli-Ziegler, is recommended.

The rapidity of flow in a sewer should not be over six feet per second, or about four miles per hour, in order to avoid useless wearing away of the structure.

The shape of a sewer in transverse section should be circular for those which are

too small to be entered, and egg-shaped, with the smaller end down, for those of larger calibre. The grade varies with the size of the conduit, being about one foot in fifty for the house-connecting pipes, and diminishing to one foot in one thousand for the larger, and one in four thousand for the largest conduits. As it is important to avoid the coating of the perimeter of sewers with slimy decomposing filth (*seil haut* of the Germans) by having the internal surface smooth, vitrified pipes are advised for the smaller, and concrete for the larger sewers. Inferior to these, but much less costly, is well laid and jointed brickwork. Junctions of sewers should be made at as small an angle as possible, and, to avoid the deposit of solid matter in eddies, the so-called "tongues" of the construction material should be formed by continuing the inverts until their respective surfaces meet. Among the appendages of sewers are the *inlets*, the external apertures of which should be carefully grated, furnished with catch-basins, and trapped; *man-holes*, which vary from two feet square to three feet in diameter and are placed at an average distance from each other of about three hundred feet; *overflows*, to get rid of superabundant storm-waters; and *outfalls*, which require closing with tidal flaps or flood-gates, when at or near the sea.

Human intelligence has not yet solved the difficult problem of properly ventilating sewers. Our author seems inclined to rely upon the natural forces which influence the movement of air in these conduits, although he admits there may be instances, like that of Brighton, England (where ventilation is secured in a two-mile intercepting sewer by fires kept burning in a chimney-stack three hundred feet high, at one end of the sewer), in which artificial ventilation is requisite.

This important document closes with numerous practical observations upon the cost of construction and modes of maintenance of sewers, and also in regard to the disposal of sewage, respecting which Mr. Hering declares that where it must be purified before it is discharged into a stream, the most satisfactory method is by irrigation of sewage-farms, such as those near Paris, provided suitable land can be purchased at a reasonable price.

Attached to the report are three useful appendices, the first giving a detailed ac-

count of the sewerage-works of eleven European cities, and furnishing a body of recently collected downright facts, which must prove of immense value to sanitary engineers, and the third supplying an elaborate bibliography of the whole subject, classification according to authors being, as a rule, adopted.

PROCEEDINGS OF SOCIETIES.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

STATED MEETING, FEBRUARY 2, 1882.

SPONGE TENTS.

D. R. ALBERT H. SMITH.—It is not necessary to dilate upon the necessity of mechanical dilators for the neck of the uterus, both as a means of diagnosis and as an important therapeutic measure.

The original sponge tents were made from a flat piece of sponge, saturated with wax and pressed flat between pieces of marble. This form of tent is comparatively useless, as it expands in one direction only. The first suggestion of the present form was, I think, by Dr. Sims, in his work on Uterine Surgery. His method consisted in immersing a conical piece of sponge in a strong mucilage of gum arabic, impaling it upon a wire skewer and winding it tightly with a cord, after which it was hung up to dry, when the cord and skewer were withdrawn and the tent smoothed with sand-paper. If the cord was wound on the sponge with sufficient tightness to give the tent useful expanding power, great difficulty was experienced in withdrawing the stylet. I was led to make a few changes in the method, and now employ a cylindrical piece of sponge, which is saturated with water only, and, without any stylet, is wound with a piece of fishing-line, to which a six-pound weight is attached. This compresses it thoroughly, and its form is easily given by the fingers during the process of rolling. The surface should be made as smooth as possible by means of sand-paper.

The tent should be of uniform size from end to end. If it is conical, the tent is introduced as far as possible, but only the small part, without much dilating power, enters the internal os, and it is not unfrequently withdrawn unexpanded, while the external os and the cavity of the cervix are widely dilated. The sponge selected should be strong and fine. I have seen tents made from coarse, rotten material, which would break during the extraction, leaving portions within the cavity of the uterus.

The introduction of medicating materials into an internal cavity of the tent is objec-

tionable, as they usually corrode the sponge, and the space and loose winding necessary to allow the removal of the stylet reduce materially the dilating power. The curved shape is useless, as the uterus can be straightened before the insertion of the tent, and less force is needed for the insertion of a straight one.

To prepare the uterus for the introduction of a tent, first use a dilator of soft metal, or a graduated wax bougie, to straighten the cervix and measure the length and calibre of the uterine cavity, noting tortuosities, etc., then rapidly introduce the largest tent possible, having first coated it with an enamelling material—as soap—and immersed it in a box of salicylic acid in fine powder, which is to be rubbed in thoroughly to form an antiseptic paste over the tent.

A sponge tent thus prepared may be allowed to remain *in situ* for forty-eight hours without developing any unpleasant odor, unless there is breaking-down tissue which may overpower the disinfecting powers of the acid.

For ease in inserting I have had constructed a peculiar powerful forceps to hold the tent clamped tightly and enable the operator to pass it rapidly to its position. Hot-water injections after the tent is in position will expand the sponge rapidly and fix it in about a minute. If pain follows the insertion, it can be controlled by opium suppositories.

Time of removal.—If the tent is removed at the end of twenty-four hours it will cause hemorrhage, because the spongioles have buried themselves into the cervical tissues, which grasp it tightly, and a forcible extraction will drag away portions of the uterine tissue and leave a raw and absorbing surface. But at the end of forty-eight hours the tent comes away easily without any bleeding. The contractile power of the uterus still remains at the end of twenty-four hours, and the presence of a finger or application in the cavity of the uterus causes rapid contraction. At the end of forty-eight hours the uterus is paralyzed, all pain has ceased, and local irritability is less. When the tent is removed, wash out the cavity of the uterus with tepid salicylated water, and, if necessary, introduce a second tent.

Among the advantages of the sponge tent is its slowness of dilatation,—not slowness of expansibility. The power of the laminaria tent is greater as a dilator, but it will slip from the uterus as soon as it has ceased expanding, while the sponge tent will remain as long as it is wanted to. The sponge has also a disintegrating power over morbid surfaces. The healthy tissue will contract again, but diseased structure will not contract, but will slough off, its vitality being destroyed. The sponge being porous, discharges will pass through it.

The usefulness of the sponge tent is for both exploratory and therapeutic purposes. It causes less pain than the laminaria tent,

and after its removal there is less tendency to contraction, and is thus more satisfactory for exploratory preparation. The sponge has a stimulant effect on the uterine parenchyma, and in cases of chronic metritis and hyperplastic enlargement it will cause a reduction of bulk. In one case, after the prolonged use of internal applications of iodine, nitric acid, etc., the repeated use of sponge tents resulted in a complete restoration to the natural size. In cases of stenosis the laminaria tent may be preferable, and I prefer it to cutting operations or the use of powerful steel dilators. In one case, years ago, I introduced a sponge tent, in my office, and allowed the woman to walk home and keep about her daily duties. The menstrual flow came on two days later, entirely without pain, for the first time in the patient's experience; the flow escaped through the sponge, and the latter was then removed. Conception occurred before the next menstrual period. The sponge tent is also the safest agent for the destruction of granular growths of the endometrium. A patient had been bleeding profusely at every period for three years. Supposing a polypus to be the cause, a sponge tent was introduced to secure dilatation. A finger was introduced into the uterus, but, finding no polypus, more tents were passed to the fundus. Fungoid growths of the endometrium were broken up by the tents. I was disappointed in my expectations of finding and removing the supposed cause of the hemorrhages, but was agreeably surprised to find the patient remain well after the uterus contracted. Another patient was sent to me from Boston for diagnosis only. I obtained permission to use a tent for exploratory purposes. I dilated the uterus with the largest sponge tent passed to the fundus, introduced my finger, and found fungosities on the anterior wall, but the means intended for exploration resulted in a cure.

In a case of polypoid pediculated growths, I at once dilated with sponge tents after the use of the wax bougie; the finger found a pediculated growth as large as a hen's egg, but the tent had disintegrated it, and it could be removed by the finger without instrumental aid.

Dr. E. L. DUER described a method of preparing a sponge tent expeditiously. Take a clean sponge of cylindrical form, dip it into melted wax or paraffine, and compress it into form as it cools. Tents may be introduced, when speculum and forceps are not at hand, by wrapping the string attached to the tent around the forefinger of the right hand, and inserting the thumb-nail into the base of the tent. The first and second finger of the left hand are passed behind the cervix; the tent is then introduced into the os uteri, and the left hand being quickly transferred to the abdomen, counter-pressure is made and the tent forced home.

Pain following the insertion of a tent is fre-

quently the consequence of pressure upon the fundus, and if the tent be withdrawn about one-fourth inch the pain will be relieved. The sponge tent is, without doubt, one of the most powerful means for the reduction of uterine hypertrophy.

Dr. PAUL F. MUNDÉ agreed with Drs. Smith and Duer that sponge tents were indicated in uterine hypertrophy and granulations of the endometrium. He has never had any bad results from dilatation of the uterus by mechanical dilators of any form; but he has withdrawn very offensive sponge tents after twenty-four hours' use, and feared danger might be near, and wished to avoid it. He can get tupelo tents of any size; it dilates not too rapidly, but regularly and strongly, and he preferred to use them, as he was afraid of sponge tents.

In a conversation at Richmond, Va., last May, Dr. Smith said that he had views of his own, and thought the sponge tents were unreasonably looked down upon.

Dr. Mundé agreed with Dr. Smith as to the method of application. He always made use of three steps in the insertion of a tent. He placed the patient in Sims's position. The cervix should be exposed properly and seized by a tenaculum; then the tent, being properly held in a strong forceps, is dipped first into a jar of liquefied carbolic acid, then into a jar of vaseline, and then rapidly passed into the previously cleansed uterine cavity,—quickly if the tent be not too large: if there be any point for it to catch upon, it will catch. At the end of twenty-four hours he always removed the tent; and it was pretty nasty sometimes. He always dreads some bad result, but has been fortunate so far, and has not seen any. He now uses the tupelo tent, and treats it in the same manner that he previously did the sponge tent. It is easily introduced; it becomes fastened in a few minutes; its effects are good; the patient does not complain of much pain; it does not imbibe so much as sponge, and does not sink into the uterine tissue as the latter does; but it is not so efficient in reducing the size of the hyperplastic uterus, for there is nothing else so good as sponge for that.

After a tent is removed, the uterus should be thoroughly cleansed.

In cases where the sponge was successful for the relief of sterility, a tupelo or laminaria tent would have probably done just as well. A sponge tent increases discharge and causes local irritation, and its removal involves loss of epithelium, and for these reasons it is not generally so good for relief of sterility. As the sponge tent is rough, it sticks, and is introduced with great difficulty, if it be of large size in proportion to the calibre of the internal os.

It is a maxim that a sponge tent must not be introduced into a fresh wound; and does not the dilator or bougie cause a fresh wound?

The sponge tent is undoubtedly the best for

hyperplasia, but all the other indications are filled by the laminaria or tupelo tents.

He had experienced the same difficulty as Dr. Smith in the tapering tent, and had therefore cut off the small end of the tent. A Molesworth dilator is open to the same objection in some cases, not dilating either os, but expanding largely in the space between; the conical tent does the same thing; blunt sponges are very difficult to insert; the laminaria has dilated in the cavities of the cervix and body of the uterus, with an hour-glass constriction at the internal os, and it was withdrawn with great difficulty. The tupelo tent dilates more equally and also more slowly. Sponge tents are also hard to withdraw, and should be twisted before traction is made.

Dr. DUER suggested twisting in one direction only, allowing the grasping instrument to be drawn in by the shortening during twisting until the tent was entirely loose. On one occasion a piece of tent broke off and remained inside the uterus, but it was extruded by uterine action and was found in the vagina the next day.

Dr. J. CHESTON MORRIS had found out the uselessness of conical tents unless inserted in a reversed position; he prefers the cylindrical form. The cases of death from sponge tents were probably due to the use of three successive tents at intervals of twenty-four hours; he prefers to allow a tent to remain from forty-eight to seventy-two hours; he has never had any serious results; but, in consequence of the tents being disagreeable and troublesome, he now uses Molesworth's dilator, and with great satisfaction; but they are badly made, they leak, and are apt to break under necessary pressure.

In one case he burst three dilators before he succeeded in effecting complete dilatation.

He agreed in the usefulness of this method of treatment for hyperplastic enlargement, and thinks that in many cases it acts in imitation of a miscarriage: expansion, then contraction, with the aid of ergot, will cure chronic metritis and enlargement.

He is now using large soft-rubber stems to effect a similar purpose: they gradually overcome the resistance of the internal os and expand it. He has never used the tupelo tent.

In his opinion it is far safer to allow a tent to remain two or three days than one only. In removing a tent, push in slightly at first, and then make traction with a curving motion. He thinks the position on the back far easier for introducing a tent than Sims's position. He has introduced tents in the manner described by Dr. Duer without speculum or forceps.

Dr. MUNDÉ.—Where should tents be applied? At the office. What should be done with the patient after the insertion of a tent? It is very reprehensible to introduce a tent unless a patient can be kept in bed for one or two days after the removal of the tent: this

is a very important point. He is accustomed to introduce all tents in the Sims position and through Sims's speculum, and has not succeeded so well on the back, because the tent easily becomes rough if not quickly pushed to its place. He introduces the sound and frequently the hard stem on the back, pushing the uterus down over the stem by pressure above the pubes.

Dr. A. H. SMITH.—Success in the treatment of sterility by means of sponge tents depends upon the relation of the time of insertion to the menstrual period. If used just before the period, it dilates the uterus and expends all its malign influence before the time at which the uterus is expected to receive the impregnated ovum. The tupelo tent fails in fulfilling the indications, as it would not allow the flow to pass through it (unless perforated), and it would not pass beside it if large enough to be of benefit. He had commenced to use tupelo tents when they were first introduced; he found them very spongy and soft, with slight dilating power, and easily constricted by the internal os; he did not find it to have any advantages over the laminaria or sponge tent; it has great powers of absorption, and had the appearance when new of having been used and dried again. (*The tupelo tents are much better made now, are hard, smooth, and have greater power.* —Dr. Mundé.)

Respecting the use of the bougie before inserting a tent. The bougie does not cause a tear or abrasion of the surface. The wax bougies are flexible-pointed and graduated in form; he has never seen bleeding follow their use. He has never used a steel bougie. He considers that there is far less risk than from the use of mechanical dilators, of which he is much afraid.

There is no difficulty in introducing a cylindrical tent, as it dilates uniformly from end to end, and a smaller tent answers the purpose, as the important point is the internal os; that is where the largest amount of tent is needed. He prefers the position on the back: the relation of parts is more natural, and the uterus is more easily straightened by pressure on the fundus above the pubes, making introduction easier.

Tents should never be introduced in the office: it is very reckless: the patient should be put to bed, and cleansing injections should be used.

The further discussion of mechanical dilators of the uterus was postponed to the meeting of March 2.

MURDER OF AN ASYLUM SUPERINTENDENT.
—Dr. E. A. Adams, Assistant Medical Superintendent of the Michigan Asylum for the Insane, at Kalamazoo, was fatally stabbed by a patient in one of the wards while making his daily rounds, January 6.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held February 2, 1882, Dr. FORDYCE BARKER, President, in the chair.

The minutes of the previous meeting were read by the secretary and approved, after which reports were read by the librarian and members of committees.

Before introducing the speaker of the evening, Mr. CHARLES F. WINGATE, the title of whose paper was, "Practical Points in Plumbing: Knowledge Necessary for Physicians for the Protection of their Patients," the President remarked: One of the avowed objects of this Academy, as expressed in its constitution, is the promotion of the public health. Strictly speaking, all of our scientific work is in this direction; but this meeting is in a larger sense devoted specifically to this object.

There is not a physician in this city engaged in active practice who is not frequently called upon to see disease of various degrees of severity, often resulting in death, which has been caused by a poison. If we can see our patients early enough, we can successfully meet such poisons as arsenic, as corrosive sublimate, as aconite, and all of this class, because we have antidotes which will prevent their effects. But where the poison is introduced into the system so insidiously that the subject is unconscious of its absorption until its effects are produced, then it is not a question of antidotes, but the problem is, how shall we counteract its consequences, and how shall we keep our patients alive until the life-destroying agents have ceased to put in jeopardy the vital powers?

The special poison to which I now refer is the gases resulting from defective plumbing, to which all classes are alike exposed. When I assert that it is a daily experience with me to see persons whose general health is suffering from this poison, as manifested by malaise, loss of appetite and strength, slight febrile symptoms, diarrhoea, physical and mental depression, and that I have seen infants, children, and adults suffering from diphtheria, scarlet fever of a mild type complicated with this disease, and destroying life, I only state facts which are common in the experience of all physicians in this city.

Hotels in the country and at other summer resorts, he said, were places where typhoid fever was not infrequently contracted; and the physician should warn families who hold him responsible for their health, of the danger of every such resort as does not give the evidence of a competent sanitary expert that the house is safe from all such dangers. The occupants of many of the most beautiful and expensive houses of New York were exposed to the poisons arising from defective plumbing.

Mr. Wingate, in the course of the reading of his paper and extemporaneous remarks, expressed his belief, with that of highest medical authority, that the chief duty of the physi-

cian was more to protect the people from the contraction of disease—to keep them healthy—than to wait until they became sick and then heal them. Indeed, the term "cure" was coming to be regarded with disfavor among physicians, and the intelligent patient recognized the fact that there was no magic about medicine, and that disease was not removed by incantations or sleight of hand.

Every physician should warn his patients not to lease or buy any dwelling, whether old or new, without having the premises thoroughly examined and obtaining a certificate of their healthfulness. But he had often found the worst of hygienic conditions in physicians' own dwellings. In examining a house as to its healthfulness, nothing should be taken for granted, but everything in the way of plumbing ought to be exposed to view; and if it were impossible to do this, some means or test should be taken absolutely to demonstrate the healthfulness of the building.

The oil of *peppermint* diluted in a pail of water, and poured into an opening above, would demonstrate with almost absolute certainty any leak in the pipes. Imperfections in the details of plumbing showed generally that the whole was equally imperfect.

He referred to sources of dampness in the cellar from imperfect drainage of the yard of rain and snow, from drain-connection between the refrigerator and sewer, from broken or leaky underground drains, from a want of any or sufficient fall in most of these, from disconnection between the perpendicular and the ground pieces. To correct these defects, it should be arranged so that the plumbing could at any time be exposed to view. Another source of dampness in houses in this city was the enormous amount of made land, and, again, cellars almost or quite on a level with watercourses. The soil was further contaminated by broken or leaky gas-mains.

Besides the above sources of bad air, the air supplied to the furnace was usually taken directly from the cellar itself. Many furnaces had no cold-air box at all, and of those that had, the box was usually made of unseasoned wood and was full of leaks, and even of holes large enough to admit the entrance of rats, chickens, and cats, which he had often found there dead and in a state of decomposition. There should be no connection whatever between the refrigerator and the house-drainage, yet in the majority of cases the opposite was true in houses in New York. Garbage, ashes, and the settlings of coal in the cellar were sources of foul air.

If possible, the kitchen should be isolated from the rest of the house, or at least it should be well ventilated. In the boxing of plumbing fixtures much dirt, old rubbish, and even decaying animals were found, and constituted a fertile source of vitiated air. Servants should not be allowed to sleep in basements. The sink and bath-room should have direct com-

munication with the out-door atmosphere. Many instances—and he mentioned some—of fatal disease arose from communication between the water-closet and a sleeping-apartment. Drapery, curtains, lambrequins, etc., caught the dust of the house and absorbed foul air. The more simple and less the furniture, the healthier would be the dwelling. He referred to the rapid corrosion of even the thickest and best pipes by the action of gas.

Many of the existing evils referred to were due to letting out the plumbing-work to irresponsible parties, because they offered to do it cheap, who then, in order to make a profit, used poor material and cut the amount short and did their work imperfectly. The family physician should create a demand, on the part of those who look to him for the preservation of their health, for the best sanitary conditions; and plumbers who have been taught in our training-schools should be employed to do work in preference to others.

Much good might be done by the co-operative building system.

Dr. DOREMUS then demonstrated how easily the thickest brick and stone walls are penetrated by poisonous gases, and referred to the fact that the surgical wards of Bellevue Hospital and certain wards in the New York Hospital some years ago became thoroughly permeated by disease-germs and led to the death of many persons. The remedy consisted in disinfection by the generation of chlorine gas, ozone, bromine, etc. In the basins of water-closets chemicals should be placed that will decompose sulphuretted hydrogen and other vile gases, which might otherwise pass through the water in the goose-neck attached to the basin. The water in the goose-neck had no power whatever to prevent the passage of gas through it into the room.

He spoke with feeling on this subject, for his own son a few weeks ago, when about to assist at a lecture in demonstration of these facts, became poisoned with the foul gases arising from defective plumbing in this city, and died; and another was only just recovering after a long and severe course of illness from the same cause.

Dr. WILLARD PARKER stated that the laws of life and health were omnipotent, and the more we observed them the longer and more healthful would be our days. He referred to the great death-rate from ship-fever in Bellevue Hospital when this fever was prevailing, and to the fact that nearly or quite all of the patients recovered after they began to place them in tents where they had plenty of fresh air. Previous to the introduction of Croton water into this city we had no cases of diphtheria: that disease was traceable to bad air from sewers. It was a great luxury to have the Croton water, but he would prefer to have the old-fashioned wash-bowl and no connection whatever with the sewer.

Drs. VANDERPOEL and JANEWAY, members

of the Board of Health, who had been requested to take seats on the platform, made some remarks. Dr. Vanderpoel referred to the importance of drainage of the soil in yards, but which he believed was almost entirely unprovided for in this city.

Dr. JANEWAY would not underestimate the extent to which disease was dependent upon the influence of poisonous gases, but he thought it was more frequently traceable to the same disease existing in another person than some might suppose. It was, of course, well understood that certain diseases, as scarlet fever, etc., were contagious; with regard to the origin of diphtheria in certain cases, however, it was a matter of some difficulty to decide. He mentioned a case which occurred recently in which the disease was undoubtedly contracted from germs carried in a trunk from New York to Florida. He also mentioned a number of instances in which he had been able to trace the origin of typhoid fever to drinking Croton water that had become contaminated by the gases arising from the dejections of a typhoid patient, which had been thrown into the water-closet. Such a contamination of the drinking-water had been thought impossible until he demonstrated the fact that when the faucet below was turned on, from which water had been drunk by these patients, gas escaped from the pipe in the water-closet and other pipes above. Such defects in plumbing were likely to be detected only by the sanitary engineer, not by the ordinary plumber. He spoke of the earnest and efficient labors of Mr. Gallatin, formerly president of the Sanitary Reform Association of this city, in remedying existing evils in this direction.

Dr. PETERS spoke of the great amount of sickness due to the foul gases and sewerage setting back from the still waters of the dock into which the sewers now emptied, and he believed that until they were carried out and made to empty into the river-current, all other efforts to get rid of the evils arising from poisonous gases would be in vain.

Dr. WYLIE then read a communication from Mrs. Hobson, setting forth the object of an association for first aid to the injured. It contemplated a course of about five free lectures to the people on this subject. A similar society, the St. John of Jerusalem, had been in successful operation in England for nearly five years. Resolutions approving the plan, offered by Dr. Austin Flint, were voted by the Academy.

The Academy also voted a resolution of thanks to Mr. Wingate for his instructive paper.

A STATED meeting was held February 16, 1882, FORDYCE BARKER, M.D., President, in the chair.

The paper of the evening, entitled "*Clinical Observations upon Diabetes Mellitus and*

Insipidus, with Cases," was read by its author, A. A. SMITH, M.D.

Dr. Smith first read the history of four cases of diabetes mellitus observed conjointly by himself and Dr. Barker within the past three years. During the fall of 1879 three patients presented themselves for treatment within one month, giving similar histories. The following is an abstract of the history of the first case.

Mr. X., aged 60 years, suffered for months from mental anxiety, disturbed sleep, restlessness, etc.; a lawyer by profession; was out of the city during that summer, but unable to recuperate his health. Easily became tired from muscular fatigue. His weight was two hundred pounds, which became reduced to one hundred and sixty-five. Had considerable thirst; did not perspire much. He had not noticed any particular increase in the quantity of the urine. Had gotten up at night to urinate as a habit for years. Appetite less than usual, sometimes loathing food. Came for treatment because of disturbed digestion, inability to work well, and mental depression. He had led quite an active life, and had become quite irritable and nervous. Was in the habit of taking champagne and wines of the sweet variety. Had suffered from gastric and hepatic dyspepsia for years. Never had malaria. No hereditary tendency to disease.

Examination of the urine revealed a specific gravity of 1034; considerable quantity of sugar; no albumen; negative microscopic appearance. At the end of three days the quantity passed in twenty-four hours was thirty-five ounces.

The treatment of this, and of the next two similar cases, was the same, namely, codeine in quarter-grain doses three times daily, gradually increased to one grain three times daily; also tincture of chloride of iron, and nux vomica, rhubarb, and extract of hyoscyamus,—the bowels being constipated; water as much as desired. Each patient was given a written list of the articles of food which might be taken, which excluded, as far as possible, articles containing sugar, starch, and the hydro-carbons in general; fat or oily foods were admitted. Under this treatment the quantity of urine greatly diminished from an excessive amount, the specific gravity gradually came down, the unfavorable symptoms of which they complained disappeared, and within a few months the sugar disappeared completely from the urine, and the specific gravity became normal. These patients had always preferred sweet articles of diet.

The special facts to which he would call attention related to the etiology of the disease. It would be observed that all of these patients led a very active life mentally, that they came to suffer from mental anxiety, lived a sedentary life, suffered from gastric and hepatic dyspepsia. These facts and the results of treatment would tend to show that, although

there had been no sudden shock or injury to the nervous system, it was in some way concerned in the etiology of the disease. Codeine, which we might suppose would tend to aggravate the dyspepsia if the nervous system had not a bearing in its causation, had had a beneficial effect upon the gastric disturbance. He thought, however, the question was an open one whether disturbance of function, either with or without organic lesion of some other organ of the body, particularly of the pancreas or the liver, might not have a causative influence, or follow as a result of the disease the etiology of which rested in the condition of the nervous system. Other cases were also narrated: one, the history of which was written by Dr. Griswold, went to show that glycosuria, or sugar in the urine, might exist without any other signs of its presence than those revealed by chemical tests.

The paper being before the Academy for discussion,

Dr. FLINT said that diabetes mellitus was either a disease of much greater frequency now than formerly, or else when present it was more frequently recognized. He had had opportunity during a few years past to study the clinical history of quite a number of cases analytically. He agreed with the author of the paper, that if the urine were commonly examined for sugar instead of for albumen and casts only, this disease would be recognized more frequently. He was led to detect diabetes mellitus in one case from a single symptom,—viz., a slight, peculiar sensation at the head of the penis after micturition. Examination of the urine showed the presence of sugar in abundance. In that, and in a number of other cases, the sugar disappeared from the urine in a very short time under the dietetic treatment, and in cases in which this was said to have failed he thought it often due to not being thoroughly carried out. The patient should be given a list not only of what he might eat, but also of what he should not eat, and the series of articles should be so arranged that he would be satisfied, and to do this required considerable skill and trouble and expense on the part of the patient. He had not used codeia sufficiently to be able to speak as to its value. Dr. Husted, who had used the sulphide of calcium, and, as he thought, with great benefit in his own case, recommended it very highly, and he (Dr. Flint) had made use of it in a number of cases apparently with very good results, but since the dietetic treatment was carried out at the same time it was difficult to say just how much influence the medicinal treatment had in bringing about the good results. He related a case illustrating the sudden development of coma, with embarrassment of respiration, which sometimes occurs in this disease. The patient died within a few hours from the commencement of the attack.

Dr. HUBBARD related a few cases in which the treatment had consisted in administration of a tablespoonful of yeast, three or four times a day. The symptoms improved; the amount of sugar in the urine diminished, but never entirely disappeared.

Dr. GIBNEY referred to two or three cases in which diabetes occurred in connection with organic disease of the nervous system, but he did not know that any direct relationship between the two could be traced.

Dr. KINNICUTT remarked that cases were on record of the appearance of sugar in the urine during the presence of a tumor in the neighborhood of the fourth ventricle. A distinct line should be drawn between those milder cases, due to a temporary functional disturbance accompanied by the appearance of sugar in the urine, and which were easily controlled by the observance of dietetic restrictions, and those severer cases, in which, whatever might be the treatment, only little improvement followed, and death from coma, and collapse was the final result.

Dr. PETERS agreed with Dr. Kinnicutt with regard to the two divisions, including the milder and more severe types. He thought the basis of the disease was in many cases a vaso-motor paralysis or paresis, and those agents which acted upon that system of nerves were particularly indicated. He considered *nux vomica* one of the best. In children the disease was generally or frequently fatal; in the aged it was less formidable than in middle life. It was less manageable in the thin, irritable, and debilitated than in the more robust. He also considered it in two stages,—first and second, in the latter being less amenable to treatment.

The PRESIDENT referred to the case of an English peer who was placed under his care by his London physician during a visit to this country. The symptoms connected with the urine were much worse, as were also those of irritability and nervousness, when he most freely violated the dietary restrictions and devoted himself strongly to literary work,—as writing poems, speaking in Parliament, etc. By following the directions of the physician the urine could be rendered almost normal.

Dr. POST inquired with regard to the frequency of gangrenous affections in connection with diabetes. He believed that there was some such connection.

Dr. FLINT recalled three cases of the kind, and Dr. PETERS referred to one.

Dr. DRAPER believed that the nervous theory of the disease was the one we must accept when we considered the experimental researches that had been made on the artificial production of diabetes in animals, and also when we considered the clinical history of the cases of diabetes that came under our observation. Not many cases, however, could be traced to a nervous shock as the beginning of the disease. After all, the liver appeared

to be the organ which was the chief instrument in its production. His remarks were chiefly with regard to the relation of diabetes to another more common form of disease, called by Jones the sour disease, in contradistinction to the sweet disease. Dr. Draper believed that the great majority of cases of diabetes were associated with lithæmia; that there was an error in the digestion of nitrogenous foods as well as of the hydro-carbonaceous foods in diabetic subjects. In the grave form, in which dietetics did no good, he thought it might be shown that there was an hereditary history of gout, or it had been illustrated in the patient's own person. In these persons it was often found also that there was not only sugar in the urine, but urea and uric acid as well. This association he believed to be even more marked in the milder or intermittent forms. This relation between diabetes and gout was further shown by the fact that both classes of patients were benefited by the same dietetic restrictions. Nitrogenous diet was the diet upon which these patients thrived best, anomalous and paradoxical as it might seem to be. Both were also benefited by a visit to the alkaline springs. He believed that the chief benefit from medicinal treatment of diabetic subjects was to be derived from the alkalies. It was true the cases related by the author of the paper lent considerable support in favor of the opium treatment; but it must be remembered that in every case dietetic rules were also followed; and he was inclined to attribute the improvement of these patients to this element in the treatment. The advantages of the two—the medicinal and the dietetic treatment—could only be told when they had been tried separately. He had yet to see a mild form of the disease that would not yield to the dietetic treatment, the exclusion of the hydro-carbons from the food, especially if the alkaline method were also added to this.

Dr. SMITH, in closing the discussion, could not agree with Dr. Draper that diabetic patients were benefited by the same articles of food by which gouty patients were benefited. It was true except with regard to meat. Patients with diabetes took this well, while he believed such was not the case with patients of a gouty tendency. The remainder of his remarks are embodied in the abstract of his paper.

The Academy then adjourned.

MEDICINE IN JAPAN.—According to a recent return, Japan possesses one hundred and fifty-nine hospitals, in which the patients are treated on principles recognized by Western nations. Vaccination is performed gratuitously and is compulsory. Moreover, a sort of medical act has been lately passed by which persons without certificates are prohibited from practising medicine or surgery.—*Lancet*.

REVIEWS AND BOOK NOTICES.

EPILEPSY AND OTHER CHRONIC CONVULSIVE DISEASES. By W. R. GOWERS, M.D. London, J. & A. Churchill, 1882.

Dr. Gowers's various published lectures upon nervous diseases are so well and favorably known that the reading medical public at all times stands ready to graciously accept whatever is bestowed by him upon it. The present book is founded even to a greater extent than the previous ones upon personal experience, the author's position at the National Hospital for the paralyzed and epileptic having given him rare opportunities. In its three hundred pages the reader may find all that is known concerning the unconquerable disease it describes. In regard to the treatment of the affection there is nothing very novel, except it be in the value of borax. Led by the statements of Dr. Gowers, we have tried this salt in several cases, with absolute failure. Thus, in one instance of hystero-epilepsy, with fits of daily occurrence, borax given until it sickened the stomach had no effect upon the paroxysms, although when bromide was administered in very moderate doses the number of the paroxysms was reduced to one in two weeks.

The chapter on pathology seems to illustrate very well the little value of clinical reasoning, unsupported by experimental research, in explaining the nature of disease. The author is of the opinion that pathology and experiment fail to give us much light as to the seat and nature of the epileptic paroxysm, and attempts to settle the question by clinical studies. He comes to the conclusion that the discharge of nerve-force originates in the cortex, and says, "We have seen that, of all the fits which begin so deliberately as to allow the patients to be conscious of the onset, a special-sense warning is present in a fifth,—that is, the discharge, as far as we can ascertain, commences in a special-sense centre. But these centres are certainly situated within the hemispheres, above the pons, and far above the 'convulsive centre.' Hence the conclusion seems inevitable that the discharge in such cases commences in the hemispheres. It is equally clear that an attack which begins with an intellectual aura, an idea, cannot commence with a discharge in the medulla oblongata. Such an attack we can only conceive as commencing in the highest of all the cerebral centres, that which constitutes, to use the phrase made current by Spencer and Jackson, the anatomical substratum of intellectual processes." On the other hand, to our thinking, it is perfectly clear that a special-sense warning is not proof that the discharge commences in a special-sense centre in the cerebral cortex. We have certainly seen epilepsy with a marked special-sense warning produced by a glioma of an olfactory bulb; and the fact that in epileptic

guinea-pigs, and sometimes in man, removal of an epileptiginous zone of the skin cures the epilepsy, seems a very strong indication that the discharge, at least in some cases of the disease, commences in the periphery. By reasoning, which we cannot for want of space here follow, Dr. Gowers shows very conclusively that the epileptic vaso-motor theories are of very doubtful value; and as his own explanations of the affection do not seem very much more conclusive, the sum of the whole matter is that at present we have not sufficient evidence to establish any theory of epilepsy, and that in this land of universal freedom each physician is at liberty to frame one for himself.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE EYE. By HENRY W. WILLIAMS, A.M., M.D., Professor of Ophthalmology in Harvard University; Ophthalmic Surgeon to the City Hospital, Boston; Ex-President of the American Ophthalmological Society; Vice-President of the International Ophthalmological Congress, London, 1872; Member of the Heidelberger Ophthalmologische Gesellschaft, etc. 8vo, pp. 464. Boston, Houghton, Mifflin & Co., 1881.

The profession has of late years been so liberally supplied with ophthalmological instruction for "students and general practitioners" that an addition to this class of literature can scarcely be said to meet a want long felt. Dr. Williams, however, has so long occupied a prominent position among American oculists that many who have been accustomed for years to associate his name with ophthalmic surgery will be glad to hear from him; and they will find his book one of the most readable of its kind. It is written in a scholarly style, and its descriptions of diseased conditions, prefaced by a brief account of the anatomy of each part, are unusually clear and satisfactory.

The author's acknowledged position and extensive experience entitle his opinions to respect; but it should be understood, more distinctly perhaps than the text always makes it, that some of these opinions, if not peculiar to him, are at least far from having the common consent of ophthalmic surgeons. Among them may be mentioned the statement that in phlyctenular conjunctivitis general treatment is not usually necessary, atropia is worse than useless, and the insufflation of calomel is a needless infliction of cruelty; the condemnation of Saemish's corneal incision in "creeping ulcer," the disuse of mercury in syphilitic iritis, and the rather promiscuous use of pilocarpin.

The plates, though not numerous, are unusually well executed, and the whole of the publisher's work is far above the average of American medical book-making.

G. C. H.

A PRACTICAL TREATISE ON HERNIA. By JOSEPH H. WARREN, M.D., etc. Second and Revised Edition. Fully Illustrated. Boston, James R. Osgood & Co. London, Sampson Low, Marston, Searle & Rivington, 1882. 8vo, pp. 428.

Upon careful examination of this book we find that of the four hundred and two pages of actual text contained in it, one hundred and fourteen are devoted to the subject of the "radical cure," and the greater part of these to urging the merits of the author's modification of Heaton's method of effecting that object. Heaton's idea, as set forth in a little work published several years since, was to inject a liquid, mainly composed of the fluid extract of white-oak bark, with some sulphate of morphia, into the hernial canal. Warren proposes to add to this some alcohol and ether, while his "very best formula" (*sic*) contains also some *veratrum viride*; and he has made some trifling changes in the instruments to be employed.

There is a great deal of "fine writing" in this book, and much learned quotation, obviously at second hand, since the authors cited do not always appear in the bibliography at the end of the volume; and the errors of style and typography are "too tedious to mention." We do not see exactly why a chapter on hydrocele and varicocele should have been introduced, nor why a list of "a few of the operators on hernia" should be given.

We would suggest that such expressions as "my distinguished friend Thomas Bryant, and my no less distinguished friend Mr. I. Wood," are in bad taste; nor is it usual to append to scientific works, except perhaps to school-books, commendatory letters and reviews in regard to them.

A "Practical Treatise on Hernia" would be a most valuable addition to surgical literature; but we cannot accord to the volume before us the right to bear such a title. P.

WEAK EYES IN THE PUBLIC SCHOOLS OF PHILADELPHIA: THE REPORT OF THE COMMITTEE ON EXAMINATION, ETC. By S. D. RISLEY, A.M., M.D. Pp. 37. Philadelphia, 1881.

We have received a copy of Dr. S. D. Risley's *brochure*, and, as the subject is a matter of so much public interest, we are glad of the opportunity again to call attention to it and to the abstract of the paper published in our issue of July 30, and also to the editorial notice in the succeeding issue.

CONGRESSMAN SMITH has introduced a bill providing that the National Board of Health shall furnish vaccine virus free of charge. The object of the bill is to prevent a "corner" in vaccine virus.—*Chicago Medical Review*.

GLEANINGS FROM EXCHANGES.

SPLenic CIRCULATION.—Prof. C. S. Roy, of the Brown Institution, London, has come to the following conclusions concerning the circulation in the spleen, as the result of elaborate experiments with the instrument which he has invented for measuring minute changes in the bulk of internal organs:

"The circulation through the spleen differs from that of other organs in the important particular that the force which impels the blood through the organ is not that of the blood-pressure in the arteries. The splenic circulation is carried on chiefly, if not exclusively, by a rhythmic contraction of the muscles contained in the capsule and trabeculæ of the organ.

"This rhythmic contraction is exceedingly regular in so far as the rapidity of the rhythm is concerned, varying as it does in any given individual but very slightly even during an experiment lasting many hours and in which the condition of the animal has necessarily changed considerably. Roughly speaking, each contraction with the succeeding expansion lasts about one minute in the case of dogs and cats.

"As has also been pointed out, changes in the arterial blood-pressure have comparatively little influence on the volume of the spleen, from which it may be concluded that the passages by which the arterial blood enters the substance of the organ are relatively very narrow, and that the pressure of the blood contained in the pulp of the spleen is not so closely connected with that of the arterial blood-pressure as would be the case did the latter play a predominating part in carrying on the circulation through the organ.

"The rhythmic contraction and expansion of the spleen is different in nature from the rhythmic contraction and expansion which may be observed in various organs on the 'Traube-Hering' blood-pressure curves showing themselves. The spleen also takes part in the production of the 'Traube-Hering' curves of the blood-pressure, contracting with each rise and expanding with each fall of the arterial pressure, but these contractions are readily distinguishable from those which are proper to the spleen and which are independent of changes in the blood-pressure. Very frequently the combination of the 'Traube-Hering' contractions of the spleen and the 'specific splenic' contractions results in an 'interference' curve being described by the instrument which records graphically the changes in volume of the organ.

"Stimulation either of the central end of a cut sensory nerve or of the medulla oblongata causes a rapid contraction of the spleen. The paths by which such vaso-constrictor influences may travel from the cerebro-spinal centres are various. As has been shown, stimulation

of the peripheral ends of both splanchnics and of both vagi causes a rapid contraction of the spleen. After section of these four nerves (the vagi in the neck and the splanchnics at their point of passage through the diaphragm) stimulation of a sensory nerve still causes a contraction of the spleen, showing that vaso-constrictor influences may pass from the cerebro-spinal centres to the spleen by some other route or routes than by the nerves named. It is not my intention, however, to give a *résumé* of the contents of the foregoing pages, and I will only remark, in conclusion, that the fact that section of the principal nerves which convey vaso-motor influences from the cerebro-spinal centres to the spleen has so little effect on the rhythmic contractions and expansions of the organ, would seem to indicate that these latter are regulated and maintained by some mechanism contained in the spleen itself."

CASE OF ANEURISM OF THE ORBIT CURED BY LIGATION OF THE COMMON CAROTID.—Dr. J. R. Wolfe (*London Lancet*, December 3), in reporting a case of aneurism of the orbit caused by ligation of the common carotid, gives the number of cases recorded in seventy years at 106. According to Sattler's list, in 64 cases in which the common carotid was ligated, 23 were cured with good vision, 17 with loss of sight, 10 were failures, and 14 resulted in death. The large majority of idiopathic cases were females. The following are some of the details of Dr. Wolfe's case:

Mrs. M., æt. 22, received blow on left eye, February, 1881, when it became blue and the cheek swollen, but no pain. Three months later began to suffer pain, with severe knocking in the head. There was dilatation of the orbital tissues and slight protrusion of the eyeball. No pulsation, but slight bruit. Vision not affected, and only hyperæmia of the retina noticeable. October 11, after confinement, was seen again, when all tissues of the orbit were highly vascular. A tumor half the size of a walnut was seen near the inner canthus, soft, pulsating, and effaceable on pressure. When the finger was applied to the inner angle there was a distinct bruit, and the pulsation was visible at a distance. When the carotid artery of the same side was compressed, the bruit ceased and the tumor was partly effaced. The ophthalmoscope showed tortuosity and great dilatation of the veins, while the arteries were hardly visible. The disk was cloudy and its outline veiled. Vision had become impaired; there were a few ulcers on margin of cornea, and the pupil was sluggish. The patient was put under chloroform and the carotid tied in the neck with catgut ligature. The ligature was cut short, and wound dressed antiseptically. Pulsation in the orbit immediately ceased, the tumor was considerably diminished, and the eyeball retracted within the orbit to such an extent that motion in every direction was perfect. The

tissues, ophthalmoscopic appearance, and vision gradually returned to the normal, and the patient was found on the fifteenth day after to have made a most satisfactory recovery.

CASE OF ECTROPION SUCCESSFULLY TREATED BY TRANSPLANTATION OF SKIN FROM THE ARM.—Dr. Tosswill reports (*British Medical Journal*) a case of ectropion resulting from a severe burn about the head and face a few years previous, which was successfully treated by transplantation of skin from the arm. Cicatricial tissue covered the whole left side of the face and forehead, and the outer two-thirds of the upper lid was much everted, even when the boy looked straight in front of him. The edge of the upper lid was dragged close to the margin of the brows, against which the lashes rested with their points directed upward; and when the boy attempted to close his eye or look downward, the eversion became still more marked. There was considerable keratitis with opacity present in the left eye, due in part to the eyeball remaining uncovered during sleep. The position of the lower lid was shown by a row of lashes, apparently growing from the cheek, an inch or so below the eyeball, and the mucous membrane was to a considerable extent replaced by what could not be distinguished from ordinary skin. The lower lip was also everted, and the region of the right eye was similarly affected, but to a less degree than the left. Chloroform was administered, and the remains of the upper and lower lids were dissected out until their ciliary margins could be brought into apposition, when they were united with two or three silk sutures. Flaps were next dissected from the right arm and forearm and placed in position upon the raw surfaces over the upper and lower lids, where they were retained by silk sutures. Eleven days after the operation the stitches which united the lids were removed, and on the following day their united edges were separated by means of a bistoury. Four months after the operation no ectropion is manifest in the upper lid, and but very little in the lower. The eyeball is covered during sleep, and the cornea presents nearly a normal appearance.

IMPROVED METHOD OF TREATING CARBUNCLE.—Dr. Charles Taylor calls attention, in the *Australasian Medical Gazette*, to the use of injections of strong carbolic acid into the substance of the carbuncle, as a very efficient means of causing it either to "abort" or run a much shorter course than usual. He has employed this method with success in a number of cases where carbuncle occurred in persons "enjoying good bodily health." An ordinary hypodermic syringe is used, and five or six drops of pure fluid carbolic acid injected. Linseed-meal poultices, fomentations, and constitutional remedies, such as the in-

dividual case may suggest, are also resorted to. There is little or no pain manifested on the part of the patient, and the acid seems to be retained where most needed, in the substance of the tumor, by coagulating the albumen in the surrounding tissues, and thus preventing absorption into the system. Dr. Taylor's method, as he himself states, is by no means original, but is a modification of two other methods, that of Dr. Eader, who introduced threads saturated with a solution of carbolic acid in glycerin, and that of an American practitioner, whose name he fails to mention, who injected half a drachm instead of five or six drops of the pure acid.

THIRTY-TWO CONSECUTIVE OVARIOTOMIES IN ONE YEAR.—Dr. John Homans reports (*Boston Med. and Surg. Jour.*, January 26) thirty-two completed, and three attempted, ovariectomies performed by himself during the last year, and from which but three died, one suffering from acute mania. An analysis of the report shows that the age of his patients ranged from 14 to 73, the average being 40. The length of the incision varied from three to eight inches. There were adhesions in eleven cases, two of which died. The pedicle was tied, and burnt off with Paquelin's thermo-electric cautery. The tumors removed weighed from two and a half to ninety pounds, the latter, however, including the ascites also present. The average weight, excluding this case, was seventeen and a half pounds. In four cases dermoid cysts were removed, and in three both ovaries. The bladder was wounded in one case without any ill effects resulting. The temperature is only given in one case, that of a patient æt. 73, where there were adhesions, and in which 99.4° F. was the highest recorded.

MISCELLANY.

SIR ERASMUS WILSON has given fifty thousand dollars to the University of Aberdeen as a foundation for a professorship of pathology; and Mr. Enoch Pratt has given Baltimore a million of dollars to support a free library.

FREE TRADE IN MEDICINE.—In order to show that we are not alone in our opinion of the editorial "Free Trade in Medicine," in the first issue of the *Medical News*, we clip the following sentences from the *Chicago Medical Review*:

... "If so, there is nothing further to do except to congratulate the *News* on its idea of medical literature, and on the fact that its position in advocacy of free trade is supported by the worst and most disreputable members of the eclectic medical press. . . . The *News* has, like many a politician, cloaked or attempted to cloak evils by appealing to the star-spangled banner. It endorses the old flag and unlimited graduation of medical stu-

dents. . . . That Americans have done so much under such disadvantages shows what they might do were science properly protected by law. America, at a time when there was less free trade in medicine, produced giants in science, like Benjamin Rush,—not to speak of others,—who is still quoted with approval in Europe on almost every one of the medical sciences from clinical medicine to psychiatry. The free trade advocated by the *News* seems identical in results with that practised by Buchanan,—a supply of diplomas to meet the demand. In view of this state of things, the declaration that 'in its management the *News* will always be conducted for the advancement of the interests of the whole profession, and it shall be absolutely uninfluenced by any personal, school, or local interest; modelled on the highest type of weekly medical journalism, its scope shall be cosmopolitan and its character national,' can be only regarded as metaphorical, unless by 'the interest of the profession' the *News* means the interest of certain low-grade medical schools."

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM FEBRUARY 5 TO FEBRUARY 18, 1882.

CAMPBELL, JOHN, LIEUTENANT-COLONEL AND SURGEON, MEDICAL DIRECTOR DEPARTMENT OF THE SOUTH.—Granted leave of absence for fifteen days from 13th instant. S. O. 17, Department of the South, February 11, 1882.

WOODHULL, A. A., MAJOR AND SURGEON.—The leave of absence granted him in S. O. 227, A. G. O., 1881, is extended one month and ten days. S. O. 27, A. G. O., February 3, 1882.

GARDNER, WM. H., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as post-surgeon at Fort Concho, Texas. S. O. 13, Department of Texas, February 6, 1882.

TREMAINE, W. S., CAPTAIN AND ASSISTANT-SURGEON, who reported at these headquarters January 9, 1882, per Paragraph 12, S. O. c. 3., A. G. O., will await further orders in New York City from date of his so reporting. S. O. 20, Department of the East, February 7, 1882.

BARTHOLOMEW, JOHN H., CAPTAIN AND ASSISTANT-SURGEON, FORT LAPWAI, IDAHO.—Granted leave of absence for fifteen days. S. O. 12, Department of the Columbia, January 25, 1882.

MAUS, L. M., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 222, A. G. O., October 1, 1881, extended one month. S. O. 36, A. G. O., February 14, 1882.

COMEGYS, E. T., CAPTAIN AND ASSISTANT-SURGEON.—To be relieved from temporary duty at Columbus Barracks, Ohio, on receipt of order, and to report in person to Commanding General, Department of the Missouri, for assignment to duty. S. O. 32, A. G. O., February 9, 1882.

WOOD, M. W., CAPTAIN AND ASSISTANT SURGEON.—The seven days' leave granted him on 4th instant by Post-Commander, Fort Brady, Mich., is extended twenty-three days. S. O. 19, Department of the East, February 6, 1882.

BANISTER, JOHN M., FIRST-LIEUTENANT AND ASSISTANT-SURGEON, FORT RENO, IND. TERR.—The leave of absence granted him in Paragraph 1, S. O. 18, Department of the Missouri, January 24, 1882, is extended one month. S. O. 16, Military Division of the Missouri, February 15, 1882.

PHILADELPHIA, MARCH 11, 1882.

ORIGINAL LECTURES.

CLINICAL LECTURE ON A CASE OF PRURIGO.

BY HANS HEBRA,

Privat-Dozent Medical Department University of Vienna,
Austria, February 7, 1882.

GENTLEMEN,—Our first patient exhibits in a very perfect manner a very interesting skin disease. You will note a variety of efflorescences over the entire body; but the greatest number of macules, papules, vesicles, pustules, and crusts are situated upon the *extensor* surfaces of the extremities. Upon the flexor surfaces the eruption is much less intense. Upon the inner surface of the elbow-joint, over the popliteal space, there is absolutely no efflorescence, and the skin is apparently healthy. Note, also, the induration, on both sides, of the lymphatic glands in the groin. Between the nipples and the knees the efflorescence exists in a very slight degree.

Now observe the general condition of our patient. She is a young woman of 15 years, but with the physical development of a child of ten. There is extremely little subcutaneous fat, as is shown by the thin folds of skin, which can be pinched up. Her muscles are slightly developed, while her bones are small and delicate.

The disease seems to be a chronic one; and, when I ask her, she tells me she has had it for ten years. She has been in our hospital a number of times.

There can be no doubt as to the diagnosis from purely objective symptoms. Just here, gentlemen, let me insist upon the importance of making your diagnosis, in the first place, purely objectively. When a patient, and particularly a lady, in private practice, commences to tell her story of her complaint, aside from the useless loss of time which careful attention entails, your mind is more or less biased by her statements, and you do not make a perfectly cool, so to speak, post-mortem diagnosis. My rule invariably is to make a purely objective diagnosis, and then listen to the subjective symptoms.

We have before us a case of *prurigo*. At the International Medical Congress last summer the older English dermatologists

denied very vehemently the existence of such a disease. Sir Erasmus Wilson was particularly emphatic in saying prurigo was only a chronic eczema. However, the younger Englishmen, all Continental authors, and most Americans admit the existence of the disease. We know very little of the disease itself. We style it an *idio-neurosis*. You see only the artificial eczema,—the effects of the disease, not the disease itself. It occurs chiefly in young people of bad constitutions and in the old age of fat people who have become thin. In the latter case it constitutes the pruritus senilis, with which you are all more or less familiar. The only difference between pruritus senilis and prurigo is that the former affects the entire surface of the body uniformly and is not so sharply confined to the extremities. The itching is universal and very distressing. The diagnosis of this affection is with us Austrians a very important matter, for reasons which I shall speak of later. The only form of artificial eczema with which it can be confounded is that of scabies. The eczema of scabies, however, affects the trunk, particularly between the nipples and the knees, while prurigo affects the extensor surfaces of the extremities.

In the Austrian army prurigo exempts the individual in whom it occurs from all service. I had a friend, a surgeon, who, in examining a man for admission into the service, did not distinguish between the two forms of artificial eczema,—that of prurigo and that of scabies. Scabies, in passing, let me say, does not disqualify a man for becoming a soldier. The man had just come out of the hospital, and he was apparently perfectly well. My friend wrote for him the usual certificate of perfect physical condition, thinking the traces of the skin disease were the results of scabies. When the soldier arrived in Bosnia he was exposed to the usual hardships of a campaign. At night the noise of scratching was insufferable to the other soldiers. While on a battle-field the poor fellow forgot to shoot, and fell to scratching. He was sent back to a hospital, and after a short interval he became well enough to return to his regiment. Soon, however, the prurigo recurred; and he was sent back to Vienna for medical inspection, and was there exempted from duty by reason of the nature of his affection. My

friend the army surgeon, however, was held responsible for all the expense incurred by the State in transporting, feeding, and clothing the man during his connection with the army. This amounted to three to four hundred florins. Now, supposing a recruiting surgeon examines six to seven hundred men daily, the risk of decimating his pay is considerable.

The prognosis, as regards ultimate cure, in prurigo, is very unfavorable. After the disease has attained any age, its radical cure is impossible, as yet. This girl's disease is about ten years old, and she will never experience permanent relief unless she remains under constant medication. If she were rich, she could take a sulphur-bath twice a week and spend her life in comfort. As she is situated, she will be properly treated in the hospital, will go out to her work apparently perfectly cured, only to return when the itching becomes again intolerable. You have heard her say she has been in the hospital already three times.

A prominent member of the Austrian diplomatic corps has been a patient of mine, suffering from *prurigo*, for years. As he keeps under constant treatment, he rarely suffers inconvenience from his disease.

ORIGINAL COMMUNICATIONS.

THE ETIOLOGY AND PATHOLOGY OF DUPUYTREN'S CONTRACTION OF THE FINGERS.

*Read before the Philadelphia County Medical Society,
January 11, 1882,*

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CONTRACTIONS of the fingers may arise from very many different causes, as, *e.g.*, from vicious cicatrices following burns, from contraction of the flexor muscles, either as a primary evil or as a result of paralysis of their opponents, from diseases of the joints, from palmar abscess, from a felon, from accident, etc., or, finally, from contraction of the fibrous structures of the palm, especially the palmar fascia. This last, very commonly and also very properly named after the eminent French surgeon, is the only form I shall consider to-night. Nor can I do more than refer to its seat and its cause, for to attempt to do

more would unjustly tax your time. I must, therefore, leave other considerations, and especially the treatment, to the future; while, however, I show you by these photographs the admirable results I have obtained by the subcutaneous operation.

The clinical history of such a case is very peculiar. In brief it is as follows. A man usually of forty years of age or over, generally without any assignable cause, will observe that his little or ring finger is slightly stiff. On making the attempt, he finds that complete extension is hindered in some unknown way. If a man of quick observation, he may perhaps notice in the palm two or three little, bean-like, smooth, and slightly tender nodules in the axis of the affected finger, and that the skin is a little depressed in a crescentic pit at one or two places, usually about the level of the lowest or middle transverse palmar line. Gradually, extending over several years, from four or five up to fifteen or twenty, but without any pain, the trouble increases. The little, hard nodules coalesce into what at last becomes a well-marked cord, extending to the finger (though the cord often forms without any such antecedent nodules); the skin becomes still further retracted, forming two or three very deep crescentic folds with the convexity upwards, sharply lifted by the cord, to which it is intimately adherent at its palmar edge, with deep hollows on each side of it. The finger, which at first only had its extension limited, has slowly but surely flexed, until now the first two phalanges are each, it may be, bent at a right angle, so that the finger-tip nearly touches the palm. Worse still, the immediate neighbors on one or on both sides have begun to flex, and are but little behind the first. Meantime, too, the other hand, at a varying interval of years, has probably suffered from the same deformity, so that at last one or more likely both hands are in part or wholly useless for most of the occupations of life. Nay, more, if he live to an advanced age, he may not only find the hand useless, but the finger-tips or finger-nails by further flexion may bore into the palm, producing painful ulcers, which, as in the case of a patient now under my care at eighty-five, may render life a burden.

The patient, meantime, finding the disability becoming a serious annoyance, has sought medical advice, and has used liniments, ointments, bandages, baths, elec-

tricity, massage, and, these all failing, he has gone to the surgeon, only to be told that an operation can be done by cutting the tendons of the flexor muscles, to which the trouble is due, but that, while such an operation will relieve the flexion, it will only substitute for it completely and permanently extended fingers. His last case then would be worse than the first, for, whereas permanently flexed fingers are to some degree useful, permanently extended fingers are only in the way, and subserve no purpose in life.

The first step in relieving disease or deformity is to find out precisely where the trouble lies and what is its cause; and in these two respects, even at the present day and in the case both of eminent surgeons and well-known authors, there is so much error as to this form of finger-contraction that I have thought it worth while to review the matter afresh and in the light of all the recorded facts. Up to the present time the literature of the subject has been entirely fragmentary in character. No one has ever made any systematic effort to collect and compare the recorded cases of the disease, and by analysis to obtain data upon which a just reasoning could be founded, whether as to its symptoms, its etiology, its pathology, or its treatment.

The deformity is quite a frequent one. Dupuytren says that up to 1833 he had seen thirty or forty cases of the disease; and I have myself collected the facts in twenty-three cases, of which I have seen the most within the last three years. To these I have added also one case each of Drs. Packard, Hunt, and Ashhurst of this city. Yet from almost the entire literature of the disease (for my work, though not quite completed, includes nearly every case) I have only been able to obtain ninety-five other cases. While more or less such patients have been seen by nearly every practitioner, yet generally they have been dismissed as irremediable, and nothing further has been said or published about them. Many of the records, too, are but fragmentary, stating, it may be, but the sex or hand or fingers; but so far as they went they were of value. I must also record my obligations to Dr. F. C. Sheppard and Mr. S. L. Caldwell, Jr., for the important aid they have given me in the search for cases and their tabulation.

In order intelligently to consider the pathology and etiology of the affection,

however, it will be needful briefly to give the results obtained in certain particulars.

1. The *age of onset*. Many cases are too inexact for tabulation, simply saying, for example, that the disorder had existed in "an old man" for "many years;" but clearly it usually arises in middle or later life. Of forty-four cases, twenty-eight began after forty, nine between thirty and forty, and only seven before thirty. Of these seven, two certainly, and probably a third, were congenital.

2. The *sex* is noted in one hundred cases, and shows very unequal liability. Of these, ninety-one were males, and nine females. But Adams and a number of other authors say they have never seen it in women. Some even go so far as to say that it does not occur in women.*

3. The *occupations* may be classed as those involving manual labor or those exempt from it. Seventy-two cases have the occupation recorded. Of these, eighteen are manual, and fifty-four non-manual. The occupation of only two women is given. These were both non-manual, and presumably the others were also. They are not included in the seventy-two.

4. The two *hands* are attacked in nearly equal proportions. Of seventy-two cases in which it is recorded, the deformity is noted in the right hand alone twenty-three times, left hand alone thirteen times, both hands thirty-six times. The right hand was attacked therefore in all fifty-nine times, the left hand forty-nine times. The order in which the hands suffered is stated in nine cases; of these, the right was first involved four times, the left five times.

5. But, while the two hands are attacked with nearly equal frequency, the three ulnar fingers are by far the greatest sufferers. The fingers attacked are recorded in one hundred and five cases. Of these—

- (1) The thumb was involved nine times.
- (a) In five cases with all the other fingers.
- (b) In one case with three others, including the ring.
- (c) In one case with "several others."
- (d) In one case with the little and ring.
- (e) In one case with the middle and little.

* Since the above was written, several articles have appeared in the *British Medical* and other journals, on Dupuytren's Contraction, and especially as to the question of its appearance in women. I may say, therefore, that up to March 4, including those in the articles alluded to, I have added twenty-six more cases to my table, of whom eleven are women, making in all one hundred and six males and twenty females.

(2) In eight cases the index finger was contracted alone.

(6) In one case it was contracted with the middle and ring.

(c) In five cases with the middle, ring, and little.

(d) In one case with the middle.

(3) In four cases the middle finger alone was contracted.

(4) In thirteen cases the ring finger alone.

(5) In eight cases the little finger alone.

(6) In thirty-six cases the ring and little fingers only.

(7) In seven cases the middle and ring fingers only.

(8) In one case the middle and little fingers.

(9) In seventeen cases the middle, ring, and little fingers.

In brief, the thumb was contracted nine times, the forefinger thirteen times, the middle finger forty-five times, the ring finger eighty-eight times, the little finger seventy-seven times, the ring and little finger together sixty-five times. It is to be noted also that the bilateral cases were not always symmetrical as to the fingers which were attacked.

6. The *phalanges* also are very unequally affected. This I find recorded in fifty-seven cases with seventy-three hands.

(1) In fifteen cases the first phalanx alone was affected.

(2) In seven cases the second phalanx alone.

(3) In forty-five cases the first two phalanges were flexed, in which fifteen times the first phalanx preceded the second, and five times the second preceded the first. In twenty-five cases the order was not stated.

(4) In six cases the third phalanx also was involved.

7. The *hereditary character* of the affection is undoubted. Besides the general statements, such as Mr. Adams's that he has seen it in two brothers "several times," I find that heredity is noted in thirty-seven persons, nearly one-third of the recorded cases.

In two cases it occurred in one generation, affecting four persons.

In eight cases in two generations, affecting twenty persons.

In three cases in three generations, affecting nine persons (in one case it skipped from grandparent to grandchild), and in

one case it occurred in four generations, affecting four persons.

8. The existence or non-existence of gout in the patient or his family is recorded forty-eight times. Of these, forty-two were gouty, and six were not.

9. The character of the palmar cord merits a more careful study. As it forms, the subcutaneous fat disappears and the cord and the skin coalesce, but only at certain points along the ridge formed by it. On either side of it the skin quickly becomes freer, and at a very short distance is entirely free. This disappearance of the fat, which I regard as the consequence of the pressure of the tightening cord, Madelung, a recent German writer, regards largely as a cause, since its absorption with age exposes the palmar fascia to "labor-insults," leading to chronic inflammation, thickening, and retraction. I do not find, as a matter of fact, that the fat is generally absorbed in these contraction cases. It disappears only in the lines of pressure.

The cord arises usually in the palm at about the level of the web of the thumb, or a little higher. It becomes more and more marked as we go lower down, and stretches as the chord of an arc to the fingers, where it terminates in two ways. 1. Near the base of the finger it divides into two lateral cords, which are inserted usually into the base and sides of the first phalanx, but sometimes reach the base of the second. Sometimes only one of these lateral cords is developed, and not always on the similar sides of adjacent fingers. 2. Sometimes, instead of splitting into two lateral cords, it is prolonged as a single cord in the middle line of the finger, when it generally is adherent to the skin midway down the first phalanx, and then separating from the skin divides into two lateral bands, which are attached to the sides of the base of the second phalanx. This median position of the cord was noted so long ago as 1833, by Velpeau, and has been insisted upon by Eulenburg, in 1864, as a diagnostic point in differentiating "strang-contracturen" from contractions of the palmar fascia,—a needless refinement of diagnosis, as his assertion that the thumb has no connection with the palmar fascia is erroneous. Even in Dupuytren's first operation lateral sections were not sufficient, and he was compelled to divide the median bridge also.

Not uncommonly both lateral and median cords coexist. I well remember how

I was puzzled at first to account in any way for this median cord.

Pathological Anatomy.—The disease is often misunderstood even by many of the best-informed surgeons. It is commonly supposed to be due to contraction of the tendons of the flexor muscles, and hence the opinion that their division would lead to a permanently extended finger. That this is a very likely error any one who has seen a typical case will at once admit, for so strong and stout is the cord that at first sight it would scarcely seem possible that it could be anything else. But on reflection several things would make us doubt the accuracy of this belief.

1. The well-known sheaths of the flexor tendons. These begin just above the knuckle-joints, and so firmly are the tendons bound down, both by these sheaths and the arches of the palmar fascia through which the tendons pass, that this fact alone should have aroused the suspicion that the bands were not the flexor tendons. And it is exactly at this point that the tight cords are the most elevated from the level of the bones. Mr. Adams has well insisted upon this point. He might also have added that in undoubted cases of the stoutest contraction of the flexor muscles the cords formed by the tendons are marked in the palm but very feebly elevated over the knuckles, thus showing the restraining influence of the sheaths. Not uncommonly in Dupuytren's contraction two finger-tips can grasp the skin in the interval between the elevated cord and tendon, and the movements of the latter can be perceived on flexing the finger.

2. The attachment of the flexor muscles. This is to the bases of the second and third phalanges. Hence flexion of the further phalanges should precede that of the first, which would only bend after the last two had been flexed, as in closing the fingers after paralysis of the interossei. But the analysis of my table shows that in fifteen cases the first phalanx alone was flexed, and in fifteen more its flexion preceded that of the second, and in only six cases was the third phalanx flexed at all.

3. While the cord, if it stretched to the second phalanx in the middle line of the finger, might be mistaken for the tendon, by no possibility ought it to be so mistaken if it split into two lateral cords inserted into the base and sides of the first phalanx, for the tendon does not so divide, nor does

it have any attachment whatever to the first phalanx.

4. Again, in true contraction of the flexors, as in the secondary contractures of hemiplegia, the tendons behave very differently on the application of continued forcible extension. Usually in a short time the fingers will yield to a greater or less degree, and flexion of the wrist will allow of their immediate extension. But in Dupuytren's contraction flexion of the wrist has absolutely no influence on the condition of the fingers, and Dupuytren has given the best illustration of the strength of the contraction, for he says they will not yield even if a weight of one hundred and fifty pounds be attached to the fingers.

But we have better evidence than merely negative. Unfortunately, I have had no opportunity myself to dissect any hand the subject of this deformity; but I have found recorded twelve dissections, involving sixteen hands. Of these the most important and exact are those by Dupuytren, Goyrand, Sevestre, Richer, Partridge, Adams, and the St. Bartholomew's Hospital specimen. Not in a single case is any mention made of contraction of the flexor tendons, and in ten hands it is expressly stated that they were entirely normal.

It will be well, perhaps, here to quote briefly three of the dissections,—those of Richer, Sevestre, and Goyrand,—in order that we may obtain a clear idea of these abnormal bands. In Richer's case the first and second phalanges of the ring-finger were chiefly affected. The middle fibres from the palmar cord went to the skin of the first phalanx; the lateral fibres went to the sides of the first phalanx and were lost in the extensor and interosseous tendons; a feebler fasciculus extended to the second phalanx, terminating fan-like in the fibro-fatty tissue; adhesion between the fascia and the flexor sheaths was very pronounced, but the tendons were free. The fibres of Gerdy were hypertrophied on each side of the finger.

In Sevestre's case of similar character the lateral bands from the palmar fascia furnished but few fibres to the base of the first phalanx. Most of them passed directly to the sides of the second phalanx, especially at its base, and were reinforced by independent fibres, arising partly from the bone and partly from the flexor sheath.

Goyrand's case proves, according to

that author, that the cords are not due at all to the palmar fascia, but to fasciculi of wholly new formation. The bands, he states, went from the fascia to the sheaths of the tendons, the anterior face of the first phalanx and the base of the second phalanx; another to the side of the first phalanx and base of the second; another arched from the cord to the left ring finger over to the middle of the first phalanx of the middle finger, where it was attached to the flexor sheath and was prolonged to the base of the second. The thumb had two fasciculi,—one from the palmar fascia, the other from the base of the forefinger.

The explanation of these dissections we shall see when we come to study the palmar fascia itself.

Baum has attributed the cords to hyperplasia of the skin, but in the dissections above referred to the fingers did not yield when the skin was removed. Moreover, when dissected, the skin resumed its ordinary length, and Goyrand and Richer especially state that the skin was not thickened either to the eye or in Richer's case microscopically. Moreover, the skin can always be differentiated from the band, even to some extent where they are fused, and where not fused the cord is felt distinctly at a deeper level. In the early stages of the disease, also, the skin is evidently drawn down into little pits by a something below it, and inserted into it, as is well seen in these photographs of the early stage of the disease.

Malgaigne has drawn attention to the flexion which occurs in plasterers, farmers, and others of similar occupation, from the inability to extend the fingers in consequence of the hardened and contracted state of the skin. Such persons should be put in another separate category, for the conditions are not analogous. In these cases all the fingers are flexed, and the entire palmar skin is affected, with no such cords and crescentic furrows as are characteristic of Dupuytren's contraction.

Though well known for a long time previously, it was reserved for Dupuytren, in 1831, to proclaim the important fact, founded on the dissection of a case, that these contractions are due chiefly to contractions of the palmar fascia and not to the tendons. In his "*Leçons orales*" in 1832, and in his lectures in 1833, he repeated it again and again, and so empha-

sized it that he was really the first who enlightened the profession on the subject. True, Henry Cline, at least as early as 1808, in his lectures, alluded to its real character; Sir Astley Cooper also had done the same, and even had advocated the subcutaneous method of operating; but nobody paid any attention to them. Dupuytren first compelled a hearing. How emphatically he impressed his views on the profession is shown in the number of theses and other papers that soon followed, and his "*marchand de vin en gros*" and his "*cocher d'environ quarante ans*" reappear as familiar friends in nearly every one. In 1835, Goyrand presented two dissections and a valuable paper to the Académie de Médecine. He contested Dupuytren's opinion, and asserted that the contraction was not due to the palmar fascia, but to abnormal fibrous cords of entirely new formation, partly from the fascia to the fingers and partly from one phalanx to another. In reporting on the paper and specimens, Sanson expresses his belief that it is due both to the fascia and the abnormal cords, but that the latter are not of entirely new formation, but are merely due to hypertrophy of the normal fibres extending from the fascia to the fingers, which exist to a greater or less degree in every hand.

In order to judge fairly which of these views is correct, we must examine, therefore, the normal anatomy of the palmar fascia, which in several respects is usually misdescribed and misdrawn. Time will allow me only to call attention to a few points, and I must reserve details for the future.

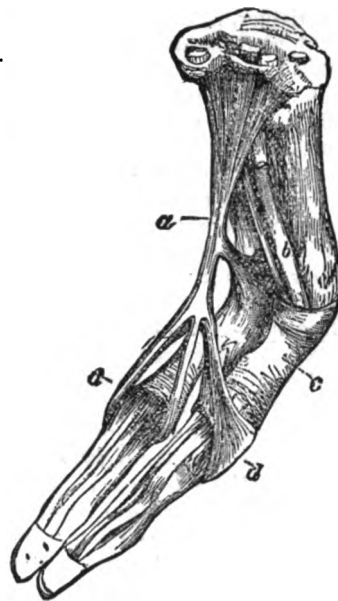
1. Under the skin, between it and the fascia, lies a very thick layer of fibro-fatty tissue which is continued on to the fingers. This is traversed by a large number of slender but strong fibres running through it from the fascia to the skin. It is largely due to this layer that the anatomy of the palm has been misunderstood, for it is very difficult to dissect away the fat, especially on the palmar surface of the fingers, without at the same time destroying all or nearly all the fibres. The fat as it were makes a hernia in many places through the meshes of the fibrous tissue. Here readily come in what Malgaigne has happily called the "*complaisances du scalpel*," each individual dissector making

his results tally with his wishes. These cutaneous insertions of the fibres exist more or less all over the palm, and can only be appreciated during the dissection by their division. They cannot well be represented in a drawing or shown in a dissected specimen. They exist, I think, more strongly on the ulnar half of the fascia, and sometimes even a strong band will be found in the line of the ring finger. On the fingers they are most marked, I think, over the middle of the first phalanx. Both of these places are the very points, it will be observed, where the contracted bands and the skin are fused; and in the palm it is the point at which the contraction first shows itself by the cutaneous pits and folds.

2. The four digital tongues of the fascia are generally represented as splitting into two lateral fibrous bands which go to the base of the first phalanges and the anterior ligaments of the knuckle-joints. This is true, but is a misleading half-truth. Some fibres go to the base of the first phalanx and pass even to the extensor tendon, while others go to its sides, and, joining some of the "fibres of Gerdy," some reach the second phalanx, and possibly some even the third.

These lateral fibres hypertrophied and contracted will account for the cases of flexion of the first and sometimes those of the second phalanges by lateral bands, but they will not account for the median bands. These are due, I believe, chiefly to the median fibres derived from three sources. 1. The fibres already described, which are inserted into the skin of the first phalanx. 2. The fibres extending loosely to the sheaths of the flexor tendons. At the archway formed by the splitting of the digital tongues of the fascia for the flexor tendons, there is no solution of continuity, no archway separate and distinct from the structures under it, but a continuity of structure from the fascia to the flexor sheaths. 3. The fibres of Gerdy, as the French call them. Of these, a very insufficient and cursory description is given, and in not a few anatomies they are scarcely even mentioned. Where the fascia divides into its four digital slips there is a strong transverse band of the fascia proper, extending from its radial to its ulnar border. But at the web of the fingers, nearly an inch farther down than these, is another even stouter transverse

band, first described by Gerdy. Its fibres give form and strength to the web of the fingers, and at the same time support the whole hand crosswise. It often lies very low down on the fingers, and so unites them that even in health flexion of one finger carries its neighbors with it. Not seldom in Dupuytren's contraction this direct effect is seen without any shortening of these fibres. Some of the fibres of Gerdy pass entirely across the hand, others only part-way, while others arch over from one finger to another. These last pass down partly on the side joining with the lateral digital fibres from the palmar fascia, while others pass directly down the middle line of the first phalanx chiefly in the subcutaneous tissue, and on reaching the base of the second phalanx they split astride the flexor sheath and are inserted into the sides of the base of the second phalanx. These three sets of fibres I have just described, partly arising from the palmar fascia and



Dissection of finger contraction, affecting middle and ring fingers; from specimen in St. Bartholomew's Hospital Museum. *a.* Contracted band of palmar fascia stretching across like string of a bow. *b.* Flexor tendons lying deeply along the concavity of the curve, close to the bones, and bound down along the first phalanges of the fingers by the dense tubular sheath, *c.* through which they pass. *d.* Digital prolongations extending to articulation between first and second phalanges in each finger. *Adams.*

partly discrete from it, yet analogous to it and at points fusing with it, will readily account not only for the median bands

but for the loop-like termination of them at the base of the second phalanx so well shown in the St. Bartholomew's Hospital specimen. So far as I have observed, these median bands always go to the second phalanx, causing either its independent flexion, or that of the first phalanx together with it.

Whether these abnormal bands are due merely to hypertrophy and contraction of normal fibres, or whether they are wholly of new formation, I do not pretend to say; nor do I think we can tell. And, after all, it is a piece of casuistry. That the fine and slightly-developed fibres are there, dissection will easily show; and the only microscopic examination we have—that by Richer—shows that the abnormal cords were formed of ordinary normal but exaggerated fibrous tissue. The elastic fibres perhaps were a little more numerous than usual.

The careful dissections I have alluded to confirm the opinions I have expressed. All of these tissues, whether the palmar fascia, or its prolongations on to the fingers, or the fibres of Gerdy, are fibrous in character. It is not surprising that each of them at times, at times all together, sometimes that and sometimes this set of fibres, in one case the median, in another the lateral, should be affected. Alike in texture, they suffer alike from any similar cause.

Another not uncommon statement as to the palmar fascia, to which Malgaigne gives his support, is that the thumb has no connection with it. And yet, as we have seen, the thumb is sometimes contracted. But careful dissection will show that there are two constant and (though not very stout) yet very strong bands running from the palmar fascia to the thumb, as is well shown in these dissections and drawings. One of them consists of longitudinal fibres from the upper part of the fascia, and is equivalent to a fifth digital tongue. The other comes from near the base of the forefinger, and consists chiefly of the proper transverse fibres of the fascia prolonged to the thumb. These two bands unite to a considerable extent into a single cord, which again splits and is inserted on each side of the tendon of the long flexor at the base of the first phalanx. The contraction of these constant bands is quite sufficient to account for the flexion of the thumb, and in Goyrand's case they are especially described from the dissection.

Etiology.—In considering the etiology of the deformity, two opposing views have to be considered. 1. That it is the result of a local cause. 2. That it is the result of a constitutional vice.

Following the lead of Sir Astley Cooper and Dupuytren, nearly all of the earlier writers—Goyrand, Sanson, R. Adams, and others—attribute it to the continuous or oft-repeated slight traumatism or insults incident to occupation, and followed by slight chronic inflammation; for instance, the use of the whip, the oar, the gun, the graver's tool, the axe, the spade, the sword, the cane. Many also of the more recent writers have taken the same view, such as Post, Roque, Fort, Gerdy, Jobert, Schultz, and Baum. But many cases occurred in which neither the occupation nor the clinical history could be reconciled with the theory of such labor-traumatism and any consequent inflammation. Accordingly, a constitutional cause, and especially gout and rheumatism, began to be suspected. So early as 1832, Avignon de Morlac, in a Paris thesis, refers to such a theory, but only to condemn it, as did nearly all his contemporaries. Guérin, in 1843, names it as probable. Elliott, of Dublin, in 1861, in an excellent little brochure, affirms his disbelief in a traumatic origin, and in the same year Menjaud, in another Paris thesis, boldly takes the ground, even in his title, that it is intimately related to gout and gouty rheumatism, and gives a remarkable series of four cases occurring in a single family. Among later writers Bulley, Madelung, Richer, William Adams, are quite decided in this view.

A third class, including Langenbeck, Pitha, Erichsen, Fergusson, Little, and Ashhurst, with variations in detail, attribute it, in general, to an inflammatory exciting cause, the result of mechanical injury, but yet recognize the fact that it often arises from constitutional conditions, among which the gouty diathesis holds a prominent place. Bryant, however, while recognizing a constitutional origin, doubts that it is gouty.

The theory of Eulenburg, that it is due to such general causes as digestive troubles, hemorrhoids, etc., or that it is due to spirits or syphilis, is scarcely worthy of a moment's thought.

Personally, after a careful consideration of the facts, I would state it thus, that while a few cases may possibly arise from injury, yet

the vast majority are due to a gouty predisposition, or some similar constitutional vice. I have personal knowledge of twenty-three out of the one hundred and twenty-one cases in my table, and of fourteen I have detailed histories more or less full. One had neither gout in his own person nor in his family, while seventeen had a gouty personal history and usually a family history of the same character. In five nothing is stated as to this point, but, as some of them were close relations of others who were gouty, it is probable that they, too, had the predisposition, if not the actual disease. Only three alleged any traumatism, and two of them were also very gouty. The large majority of all the cases I have seen had enlarged and tender finger-joints, the seats of more than suspicious pains.

One gentleman on whom I operated had a very severe and protracted attack of lumbago two days later, and another a year after. In another case, a merchant of eighty-five, in whom the disease came on at about forty-five in the right little finger and never extended any farther, this finger-contraction was the only apparent gouty trouble until he was over seventy. Atrophy of one optic nerve then set in, followed at eighty by a fierce gouty iritis, which destroyed his vision and was accompanied by an entirely disabling rheumatism of all the right arm. This and an equally rebellious eczema have persisted for nearly five years. A similar attack of gout followed two of Mr. Adams's operations, though at a longer interval, and one of them had had a gouty inflammation of the eye. How strikingly characteristic this is of gouty patients, in whom an accident or an operation is so apt suddenly to disclose the latent disease! Sir James Paget, in his charming *Clinical Lectures*, mentions one case in which gout attacked the hand five minutes after a fracture of the forearm, and another in which, at seventy-five, after amputation of a little finger, the patient had his first attack of gout, a luxury his family had long enjoyed.

But, however striking may be the personal experience of any one man, it is possible that it may be misleading, from its not representing the average conditions. Accordingly, I have analyzed my tables, and I think this will confirm the conclusion already formulated. The direct statement as to the presence or absence of a

gouty or rheumatic personal or family history is made only in forty-eight cases: forty-two of these were gouty, and six were not,—a very striking disproportion. Moreover, in many that I could not class as gouty there were suspicious pains which were very likely of this character. It must not be forgotten, however, that most of these cases so classed as gouty are reported by later writers. Had the earlier surgeons inquired more carefully into the history and recorded the result, we should have been more certain of our ground. But, enthralled by the belief in a traumatic cause, apparently no further inquiry was made, or at least recorded, either as to the personal or the family history in this respect.

Another feature that is a strong argument in favor of its constitutional and probably gouty origin is the striking tendency to heredity. Gout has been long known as apt to be hereditary. So true is it that Paget, in the *Lectures* already alluded to, says it would be rare for one member of a gouty family to live to old age and not to suffer from it, if not during the calm of good health, yet in the troubles that follow injury or illness. Thirty-seven, or nearly one-third of all the cases, had the hereditary element pronounced extending even to the third and the fourth generation. In several of these cases also the occupation was distinctly such as to involve manual labor, such as a quarryman and a wood-carver. So long as the patient alone was had in view, the origin of the disease from a local cause would be extremely probable; but a larger view, embracing the family history as well as the personal, shows the greater probability to be on the side of the constitutional origin of the affection.

But other features in the clinical history of the disease render a local and especially a traumatic cause a very unlikely one.

1. The age of onset is usually middle or later life; yet, as the period of vigorous labor usually begins at or even before twenty, we would naturally look for it to arise much earlier than after fifteen or twenty years of such labor.

2. Again, its appearance in women is an argument against the traumatic origin, for their occupations are not such as to expose them, as a rule, to such labor-insults. On the other hand, their comparative immunity from gout is noticeably in accord with the statistical results we have obtained. Gar-

rod quotes the French table, giving eighty cases of gout in men to two in women, and says that it is confirmed by his own experience, and we have ninety-one cases of Dupuytren's contraction in men to nine in women.

3. While occupation or a personal habit is usually assigned as the cause of the supposed frequent traumatism, my investigations show that in most cases of this disease the patients were not engaged in occupations or habits involving manual labor. Most, if not all, of the women were probably thus exempt; but without including them it is as eighteen to fifty-four in favor of the non-traumatic origin. Among those occupations classed as manual were the farm-laborer, wood-carver, mason, soldier, clerk (who ascribed it to the letter-stamp in the pre-envelope days), pilot, dyer, upholsterer, gardener, grocer, quarryman, coachman, paper-hanger, and mineralogist; while among the non-manual occupations were the apothecary, pianist, violinist, government official, army officer, clerk, lawyer, doctor, nurse, hospital steward, master-builder, banker, clergyman, college and railway president, merchant, and gentleman, and men who indulge in the luxury of no profession or occupation. Of course it is possible that some of these may have used their hands so as to induce injury, as a doctor who rode horseback a great deal, or a lawyer who obtained exercise by rowing; but any error from this cause would be offset by the want of such injury in some of those classed as of manual occupation. While a violinist's labor is etymologically manual, yet it is not such as to involve any labor-traumatism.

4. In laborious occupations, as a rule, the thumb, the fore and the middle fingers also would generally bear the brunt of the work; yet we find the vast preponderance of the contractions in the ring and little fingers, and this irrespective of the character of the occupation.

5. So, too, the invasion of the left hand in almost equal frequency with the right, and in not a few cases the left hand alone, would militate against the theory of a traumatic cause. A disease which appears indifferently on either side, or more frequently on both, is far more apt to be due to a general constitutional cause than to any traumatism. Left-handedness might account for the contraction on that side were the disease very rarely sinistral in its

manifestations; but its so frequent occurrence puts such an explanation out of the question.

6. It is also occasionally congenital. Dupuytren records two such cases, a child of six and its grandmother (a not insignificant element of heredity coming into play), and Gerdy records one of three years old in which it is more than probable that it was congenital. In such cases labor-traumatism is of necessity excluded.

7. As to the chronic inflammation supposed to follow the repeated slight injuries, I can only say that absolutely no perceptible evidences of it exist as a rule. One of my cases has been under my observation for six years, and another for over thirty, yet at no time has there been the slightest evidence of swelling, heat, redness, or other inflammatory symptoms (occasional slight pain alone excepted), nor have I seen it in any other case.

8. Finally, gout and rheumatism, as we know, attack occasionally the plantar, the lumbar, and the ante-brachial fasciæ, attacks which are followed sometimes by similar obstinate and permanent contractions.

The conclusion would therefore seem forced upon us that its cause lies deeper than any local influence, and that a constitutional vice like gout or rheumatism, if sought for, will nearly always be found.

EXPERIMENTAL CONTRIBUTIONS TO THE HISTOLOGY OF BRIGHT'S DISEASE.*

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A.—EXPERIMENTS.

MY object in undertaking these experiments was to study the lesions of nephritis in their early stages, a privilege which in human pathology has been limited to a few,—which accounts for the many diversities and diametrically opposite views held on the subject. I will here credit Dr. H. F. Formad with having brought this subject to my mind as an inviting field for experimental work, and also acknowledge that I used his opinion on doubtful points relating to the microscopical appearances of some of the sections. (The work was

* Abstract of a thesis presented to the Medical Faculty of the University of Pennsylvania, March, 1881.

done in the Pathological Laboratory of the University of Pennsylvania.)

The method of procedure was to inject cantharides, from one-half to two and a half drachms, with a hypodermic syringe, and then kill the animals at different dates and compare their kidneys with those of normal animals. In some cases the kidney was cut down upon and injected directly; in other instances the drug was thrown merely into the abdominal cavity. The only other similar experiments that I have found recorded are those of Dr. Thadäus Browicz, Docent at the University of Cracow, and those of V. Cornil, of Paris, whose results I will give farther on.

I will generalize my experiments into three series, according to the seat of the lesions produced. In the first series I will include only those experiments in which the lesions were confined solely to the renal epithelium. This condition of parenchymatous change in the kidneys, as a rule, followed those experiments in which the cantharides was merely injected into the abdominal cavity. *Macroscopically* these organs presented the following appearances: *size*, apparently normal; *stellate* veins ramifying over the cortex, congested, in some cases very much distended with blood and standing out quite prominently. *Capsule* not thickened, without adhesions, and readily detached from the cortex. On section, presented a darkened and congested appearance, with the blood oozing freely from the divided structures. In some cases the dark color was interspersed with traces of yellow lines. No great prominence of the Malpighian tufts could be discerned by the naked eye. *Microscopically*, the cells were found to have taken the carmine staining but lightly, were much swollen, highly granular, and in many instances the tubules had by desquamation been deprived altogether of their secreting element. The cells lining the convoluted tubes were often found infiltrated and distended with fat. Many of the tubules that had been transversely cut across showed their lumen occluded by the swollen cells, and in some cases granular cylinders, the result apparently of disintegrated epithelial cells, could be seen filling their interior. In one case the Malpighian tufts were retracted, leaving an interspace occupied by a granular material. The walls of the arterioles were either normal or but slightly swollen: however, in one case, even mi-

nute capillary hemorrhages were found. The lesions were always most marked in that portion of the kidney occupied by the convoluted and looped tubes, the so-called labyrinth, and the straight collecting tubes either remained open or had their epithelial lining changed to a much less degree.

In the *second series* I will include those experiments in which both a tubal and an interstitial lesion resulted. These changes occurred if the irritant was injected directly into the kidney. *Macroscopical appearances*: size in most cases somewhat increased; in no instance did the organs appear smaller than normal. Capsule thickened, rough, but, as a rule, readily detached from the cortex. On section, the demarcation between the cortical and medullary zones quite distinct. While the medullary region was of a dark congested hue, the cortex appeared also swollen, but of a yellowish-gray color. The Malpighian glomeruli appeared in some cases as minute red congested points.

Microscopically the epithelial element is swollen and their nuclei much obscured by their highly granular condition. The lumen of the tubules, in consequence of this swollen epithelium, is much encroached upon, and is in some cases altogether occluded. Granular plugs may be seen sticking in the transversely divided tubes. The looped tubules and the collecting tubes of the first order contain epithelial cells infiltrated with fat; this in some places has been either reabsorbed or carried off by the urine, and there remains as a result a granular débris, which has collected in some places about the Malpighian bodies to such an extent as to push them to one side and distend their capsules. In the intertubular spaces are seen embryonic cells of a round or spindle-shape character. There is not only an increase of nuclei around the Malpighian bodies, but their capsules are also thickened, and in the tufts themselves the nuclear proliferation has taken place, giving rise to a true "glomerulo-nephritis." The walls of the blood-vessels are thickened, and around their adventitia the cell-proliferation has also taken place. Minute extravasations of blood are seen in various parts of the specimens, and this has even gone so far as to produce hemorrhagic infarcts of considerable size.

In the *third series* I will include two experiments, which I shall describe sepa-

rately. In the one case a small black dog was anesthetized, an incision made in the left lumbar region, and the kidney injected directly with half a drachm of the tincture of cantharides. Closing the wound by suture, the animal in the course of eight hours recovered from the effects of the operation without having manifested any bad symptoms. Six days later the animal was again chloroformed, and killed by section of the jugulars. Reopening my former incision, which had by this time almost completely united, I came upon the injected kidney, in which I found an abscess situated beneath the capsule, around the point of insertion of the needle. *Macroscopical appearances of the kidney:* size increased, capsule much thickened, firmly adherent, so that in its removal strips of the cortex were also torn off. On section the cortex was found to be much swollen, of a dark congested appearance, with blood oozing freely from the divided tissues.

Microscopically, in the intertubular spaces a marked small cellular infiltration was found, many of the cells being spindle-shaped. This increase of interstitial tissue was most marked in the region of the cortex bordering on the medullary zone. The epithelium lining the tubules was highly granular, and swollen to such an extent that in many instances their lumen was occluded. On transverse section cylinders were seen in some of the tubes, in others there was simply a granular debris, while in still others even these remains of degenerated cells were absent and the tubes were quite empty. In the region of the abscess were seen many wandered-in cells; the tubules had been overrun, as it were, and were scarcely visible. Still farther from the abscess the tubules were seen intact, and the wandered-in cells simply occupied the intertubular spaces. Limiting the abscess was observed an attempted wall-formation by a reactive inflammation. The walls of the blood-vessels were much thickened, and around their adventitia was observed a proliferation of the connective tissue. *Right kidney:* size slightly increased, capsule thickened, but much less so than that of the left organ, and it was readily detached from the cortex. On section, the tissues presented the same venous congestion as in the left kidney, but to a much less degree. *Microscopically* the blood-vessel walls were found thickened, and small hemorrhagic infarcts seen in the region of the vasa recta

and vasa afferentia. The capsules of the glomeruli were thickened and an increase of nuclei was observed in the intertubular spaces. The epithelium here, like that in the left kidney, was granular and swollen.

In the other experiment included under this series a black rat-dog was injected in the left lumbar region with a drachm of cantharides, the injection being made directly into the peritoneal cavity. Two hours after the injection the animal appeared quite sick from the effects of the drug. Eleven days later the dog was again injected upon the left side with a drachm of the drug. Twenty-one days from the date of my first injection chloroform was administered, and the animal killed by section of the jugulars. Making an incision through the left lumbar region, I at once came upon the kidney, which I found much enlarged. I now found that the ureter was also distended by a fluid resembling urine, and about four inches from the kidney I came upon an inflammatory stricture, the result no doubt of my injection, the needle in all probability having perforated the ureter. Severing the ureter above the point of stricture, a large amount of healthy urine escaped from the distended kidney, and its size decreased to about one-half, so that it now felt soft and flabby. Following the divided ureter down to the bladder, I found this latter viscus partly filled with urine, the secretion doubtless of the right kidney, as the stricture was impermeable to the passage of urine. Examination of the urine disclosed the presence of albumen and tube-casts chiefly of a granular and fatty character.

Macroscopical appearances: capsule attenuated and readily removed. On the surface of the cortex were seen round whitish bodies, which I took to be distended Malpighian tufts. Laying the organ open, I found the cortex much swollen and of a light-gray color. The medullary zone was of a darker hue and contained much venous blood. The hilus was much dilated, resembling a large funnel, its mucous membrane being thickened and hyperæmic. Prolongations from the dilated hilus could be traced inward as far as the periphery of the cortex. The ureter was also very much dilated, and readily permitted the introduction of my little finger. *Macroscopical appearances of right kidney:* size slightly increased, capsule normal; on section, the cortex was of a yellowish hue,

while the medullary portion was dark and congested. *Microscopical* appearances of both were similar, save that the lesions were greater in the left kidney. Many of the tubules contained cylinders, mostly of a granular character. The epithelium was swollen, highly granular, and infiltrated with fat. The interstitial tissue was increased, and many embryonic cells were seen not only in the intertubular spaces, but also around the thickened blood-vessel walls and Malpighian tufts. Many of the latter were wholly obscured by a granular debris, which compressed them in one corner of their capsules.

DEDUCTIONS FROM EXPERIMENTS.

The unicity of Bright's disease has lately again been strongly propagated by Professors Bamberger and Rosenstein, who conclude that the lesions always involve both the parenchyma and interstitial elements from the commencement, and that the issue into the large white kidney and the granular red one depends upon the fact that in the former the lesions are more pronounced in the secreting parenchyma, while in the latter it is the intertubular connective tissue which is most involved. I must differ from this theory, as we may have a parenchymatous nephritis, at least in its early stage, without sufficient lesion of the interstitial tissue to be recognized by the microscope; and in proof of this statement I refer to my experiments included under Series First. My own explanation as to why we have the two forms of kidney, the large white one and the small red one, is that in the former instance we have an acute process brought about by the accumulation of a *materies morbi* in the blood, such as occurs in the acute exanthematous fevers and also in the sudden chilling of the body, in which the great strain is first made upon the blood-vessels, resulting in acute hyperæmia and inflammation. The epithelial elements of the kidney react to the irritant in a similar manner as all mucous membranes, in the production of an acute catarrh. In further proof of this, I will refer to the urine of acute parenchymatous nephritis, in which blood, blood-casts, and epithelial casts are found. Now as to an explanation how we may have simply a catarrh without a discernible lesion of the interstitial tissue. This may be brought about in two ways. First, the irritation may be

transient and very acute, as in my experiments in Series First, acting suddenly upon the epithelium, producing a cloudy swelling, the irritant being quickly eliminated, and, the animal possessing good recuperating powers from a catarrh, the epithelial cells may again regain their normality. This very thing we see demonstrated in daily practice, that in one person an acute catarrh gets well soon, while in another the process lingers and finally it eventuates into a wasting disease and death ensues. Secondly, owing to the great production of epithelial cells the intertubular tissue may be retarded in its growth, although this must be rare, and again we would have resulting a nephritis with hardly a discernible lesion of the interstitial connective tissue.

In case of the contracted kidney we have the result brought about by a slower process. The blood being surcharged with lithates, as in the gouty diathesis, or with lead in chronic lead-poisoning, we have the serum acting upon the epithelial cells in the region of the convoluted tubes. The cells have double work in separating the solids from the watery fluid, the process of filtration is of necessity slower and continually goes on, rendering micturition frequent. The intertubular tissue is constantly bathed in a fluid holding an irritant, the blood-vessels must withstand the renewed action of the heart in forcing the filtration, and in consequence of this slowly changing nutritive pabulum bathing the interstitial tissue, irritating it to a hypernutrition, we finally have an overgrowth of its elements similar to that which we see in passive hyperæmias elsewhere. The epithelial cells being so much more slowly irritated do not take so active a part as in case of acute nephritis, and consequently, while they may be involved, they do not show an active proliferation.

It has been denied by Dr. George Johnson ("Lectures on Bright's Disease") that we have an increase of connective tissue between the tubules, he claiming that this is only a mistaken idea of the increase of connective tissue and is based upon the thickening of the basement membrane of the uriniferous tubules, and that this, together with the wide space between the tubes occupied by atrophied remains of shrunken tubes and intertubular capillaries, has given rise to this doctrine of a new formation of connective tissue be-

tween the tubes. In this statement I must beg to differ with him. For while I can well conceive how the kidney, like any other organ in the body, is liable to become atrophied by age and show a relative thickening of the basement membrane, still we do have a true increase of the interstitial element, and this is well illustrated in many of my specimens included under Series Second. He also apparently doubts the new formation of connective tissue around the Malpighian tufts, and thinks it may be mistaken for a simple thickening of the fibrous capsules themselves. I can agree with him in that we have a thickening of the capsules, but think he is in the wrong for limiting this thickening to the capsules alone, for my preparations distinctly show that we also have a new-formed connective tissue outside of this. (See experiments under Series Second.)

My experiments gave also a different result from those of Browicz,* probably due to the fact that his use of cantharides was limited to subcutaneous injections, while my own were made either into the kidney itself, in which case there resulted the formation of an abscess, the "surgical kidney" of some authors, "suppurative nephritis" of others, and the production of marked interstitial change, or injections were made into the abdominal cavity, in which case various results followed. The most marked lesions, however, I always observed in the labyrinth, the epithelium being either cloudy, granular, or fatty. This last lesion Dr. Browicz does not seem to have observed. Dr. Dickinson ("Pathology and Treatment of Albuminuria") says that though fatty change is rapidly produced it is never seen in the very early stages of the disease. This high authority's opinion would seem to be certainly disproved by my own experiments, for I not only found this fatty condition present in a number of experiments, but also found a fatty condition in one case in an animal killed within twenty-four hours after the injection of cantharides. This lesion, then, which is described by authors as constituting the second stage of the parenchymatous nephritis, may be observed along with the cloudy swelling in the very early stage of the disease produced experimentally. To what is this fatty degeneration to be attributed? It certainly was not a post-

mortem change, for I was very careful of this, and in no instance did I permit an organ to remain exposed after the death of the animal longer than half an hour, when it was put into appropriate hardening fluid.

Dr. Johnson, in his "Lectures on Bright's Disease," offers the explanation that the swollen tubules so compress the intertubular capillaries, and thus impede the circulation, that the nutrition of the tubes is impaired, and as a consequence their cells undergo a fatty degeneration. Dickinson thinks it is not the primary change, but the result of an altered nutrition of the cells consequent upon the inflammatory state. Johnson's explanation of its being due to a retrogressive change of necrobiosis I think highly satisfactory in chronic lesions; but in the early stage of the acute disease I think it more probably due to the action of the irritant in the blood, irritating the cells directly while they are excreting it, thus causing a hypernutrition rather than a necrobiosis. Therefore I will, with Dickinson, assume that it is the result of altered nutrition consequent upon the inflammatory state.

The desquamation is, I think, probably to be explained by the fact that in the cloudy swelling of the cells we have a loosening of their connections with the basement membrane, and the cells, having become also granular, resist the filtering through of the watery fluid. I would suggest, therefore, that desquamation occurs in consequence of this loose connection of the epithelium and its impermeability, in consequence of which it is necessarily forced forward into the lumen of the tubules and carried off by the urine.

The casts which I found in the urine of the animals experimented upon were of a granular, hyaline, and oily character.

The results of an experimental research by Dr. V. Cornil, of Paris,† which were published after I had written my essay, coincide better with my own experiments than those of Dr. Browicz. He says that acute cantharidin-poisoning may be compared to that which results from a single dose, and the subacute poisoning to that which follows the absorption of repeated doses.

"In the rabbit, from forty minutes to an hour after the subcutaneous injection

* Centralblatt für die Medicinischen Wissenschaften. Berlin, March 1, 1879.

† London Practitioner of August and October, 1881.

the lesions of the cortical portion have attained their greatest intensity. We observe a liquid extravasation between Bowman's capsule first; this coagulates, forming a reticulum containing in its meshes leucocytes and red blood-corpuscles, which have evidently come from the blood contained in the vascular tufts of the glomeruli. These cells finally eventuate into a granular débris. In one and a half to two hours do we first observe a change in the flat cells of the capsule itself. These now imbibe the liquid containing this granular material, swell, and many are detached by becoming spherical, and fall into the cavity of the glomerulus. We also notice a granular and fatty degeneration of the cells lining the convoluted tubes. It is not until a little while afterwards that the inflammation shows itself in the straight and collecting tubes by a multiplication of the cells and modification of their form, and by immigration of leucocytes. We have elaborated from the renal epithelium clear granular globules whose chemical nature we do not know. One sees in the middle of the protoplasm of the cells, or rather as an internal part of them, a clear cavity which projects into the lumen of the tubes. This clear globule, or, better, that part of the cell itself which constitutes the clear globule, escapes inside of the tube and is converted into a bubble.

"In the dog I have seen in one, two, or eight days, white corpuscles and a granular exudate extravasated into the capsules of the Malpighian glomeruli, just as in the kidney of the rabbit, with the exception that the white corpuscles were in less quantity than in the rabbit. The experiments upon the dog, on account of their renal epithelium normally containing more fat, and because of the abscesses following the subcutaneous injections, were not so satisfactory as those in the rabbit.

"The use of the term desquamative nephritis is justifiable only in the straight tubes. The lesions of the connective tissue, as in most cases of albuminous nephritis, are of minor importance. In acute nephritis we find disposed along the arteries of the glomeruli, and especially along the capillary vessels of the pyramids, leucocytes. If we admitted an absolute duality between interstitial nephritis and parenchymatous, we should have some grounds for saying that there was here a certain degree of interstitial involvement. But

we have to do with an inflammation in which the increased tension of the blood in the vessels leads to the passage out of the serum and of several red blood-corpuscles and leucocytes. The connective tissue serves as a place of passage for this exudation, and preserves traces of it; yet it is hardly injured, and the essential phenomena occur in the glomeruli and renal tubes."

Unfortunately, Dr. Cornil has not concluded his paper in the December number of the *Practitioner*, and therefore I am unable to comment on his conclusions. However, the clear bubble-like globules that he mentions as being elaborated by the cells I met not only in the cells of the urinary canals, but also in the urine of different animals, and took them to be, under a power of one thousand diameters, infiltrations of fat. Probably the fact that I injected the kidney directly—a method which neither Dr. Cornil nor Browicz seems to have adopted—accounts for the slight differences that may be found in our experimental results.

Another interesting change occurring in the kidney in this disease is that of the blood-vessels. The views advanced for explaining this lesion have been the subject of much controversy. According to Johnson, we have a hypertrophy of the muscular walls of the minute arteries, which he explains by the fact that the secreting tissue of the kidney is partly destroyed, its working power is lessened, and it requires less blood. The minute renal arteries by their contractile power, under the influence of the vaso-motor nerves, now regulate the blood-supply in accordance with the diminished requirements of the gland. This regulating contraction continues and increases month after month, year after year; and the physiological result of this persistent overaction leads to a hypertrophy of their muscular walls. The rule is that the arterial hypertrophy commences when the glandular hypertrophy ceases, this being due to the fact that so long as we have compensatory enlargement of the gland-tissue, just so long does it obviate the necessity of any check action on the part of the arterioles.

According to Gull and Sutton, the changes are due to a thickening of the adventitia alone; the muscular coat, on the contrary, virtually atrophies and degenerates. These changes they conclude,

though allied with senile alterations, are probably due to distinct causes not yet ascertained, and propose for this morbid state a special term,—that of “arterio-capillary fibrosis.” Lastly, Dr. A. Ewald,* who has also investigated this subject, differs from both of these gentlemen, and advances the theory that the blood becomes altered in its composition by the renal disease, excites increased resistance in the capillaries, causing as a result an increase of tension in the arterial system; and this leads to, first, a hypertrophy of the heart, and later to arterial hypertrophy. This latter he thinks is entirely to be accounted for in a mechanical way, and is dependent on the continually-increased contraction of their muscular coat, which is necessary to inhibit their extreme dilatation under the great pressure to which the vessels are exposed.

I think that all three of these causes may help produce the alteration as it occurs in the later stages of the disease, but that Dr. Johnson goes too far when he makes the assertion that the thickening only occurs in the stage of contraction and is due to muscular hypertrophy alone. Many of my sections show a thickening of the media and adventitia, and this occurring in animals eight and thirteen days after the injection. I think that Gull and Sutton are right in claiming a thickening for the adventitia, but err in not admitting a similar change in the muscular coat. My own explanation as to why we have this thickening in the early stages is, that the irritating substance in the blood accumulates in the kidney during its excretion and exerts its irritating influence upon the vessels directly; in consequence of this a molecular change occurs in their walls, by which the free filtration of serum is permitted, but the changed epithelium retards the passage of this serum into the tubules, so that all the tissues are supersaturated by a pabulum loaded with an irritating substance which acts upon the walls of the vessels as well as the other structures of the organ, and thus sets up an inflammatory hyper-nutrition, and in this way serves to form the lesion which the increased cardiac power would also help produce.

One other paper upon this disease I think it proper for me to mention here, and that is the one published by Drs. Da Costa and

Longstreet (*American Journal of the Medical Sciences*, July, 1880), in which they express the belief that in Bright's disease, especially in the contracted kidney, there always exists a constant lesion of the renal plexus; again, that these alterations are discernible in the renal ganglia before being so in any of the other tissues; and, finally, that this diseased condition of the ganglia furnishes a clue to the alterations of the vessels in the kidney: in fact, it is the direct cause, in their minds, of all the degenerative changes met with in Bright's disease.

That they met with changes in the renal plexus I will not for a moment doubt, for I can readily conceive that the same irritation which is exerted upon the renal epithelium would also act upon the connective tissue surrounding the renal plexus, and upon such delicate and highly-organized protoplasm as constitutes the nerve-cells. But that this change precedes all others, and is the cause of the degenerative processes, I do doubt, and, as grounds for this rejection of their purely hypothetical view, will cite one of my experiments in which a cloudy swelling and fatty condition of the renal epithelium was produced within twenty-four hours after the injection.

CONCLUSIONS.

I would formulate the following conclusions:

First. That a nephritis may result whenever we have the blood going to the kidneys surcharged with any irritating material that is excreted by them.

Second. That a fatty degeneration and infiltration of the renal epithelium may be present in the very early stages of nephritis,—in fact, within twenty-four hours after its production.

Third. That the first alterations in the kidney are to be seen in the epithelium lining of the convoluted uriniferous tubules, and that this alteration manifests itself in a clouding of their protoplasm.

Fourth. That the intensity of the lesions is directly in proportion to the concentration of the poison.

Fifth. That we may have a parenchymatous nephritis without an involvement perceptible by the microscope of the interstitial tissue; but that this occurs very rarely, and only in those cases in which the poison acts either very severely and produces the early death of the animal, or its very great

* Virchow's Archiv, December, 1877.

dilution by the blood and rapid excretion render its influence transient and the animal makes an early recovery. In many cases there is an involvement of the interstitial tissue as well as of the epithelium, and cases are seen with all grades of these transitions.

Sixth. Interstitial nephritis may occur as an acute disease, but in all cases of interstitial nephritis there is always detectable by the microscope more or less cloudiness of the epithelium, and while this latter may return to its normal condition after the excretion of the irritant, the connective tissue, on the contrary, when once formed cannot again undergo reabsorption. However, the irritation exerts its influence at one time most upon the interstitial tissue, and then the red granular kidney results, or at another time it acts most on the epithelium, when we have as a result the large white kidney.

Seventh. The blood-vessel walls are thickened, and that this alteration is due to a hypertrophy of all three coats, for the irritating matter affects not one coat alone, but all three alike.

Eighth. That desquamation is due to an impermeability of the epithelium in consequence of its granular alteration, and thus the cells are forced away from their basement membrane by a *vis a tergo*.

Ninth. That parenchymatous nephritis is a very active process, as is shown by the great cloudiness of the cells and the presence of highly granular and bloody cylinders in the urine, and that the interstitial lesion is more of a passive process, resembling very much the results which we see following a passive congestion in any other part of the body.

INFLUENCE OF MATERNAL IMPRESSIONS ON THE FŒTUS.

BY D. WEBSTER PRENTISS, M.D.

IN a recent number of the *Philadelphia Medical Times* (February 11, 1882) there is a brief report of a case in which a nævus appeared on an infant, apparently as a result of an impression made upon the mother during her pregnancy.

A similar case came under my observation some years since, so remarkable that I think it should be recorded.

In May, 1872, Mrs. P., then in the fourth month of pregnancy, received a

visit from a friend, Mrs. H. Mrs. H. has a birth-mark of a bright scarlet color covering one-half of the nose and extending on to the cheek. It had always been a source of great mortification; and she detailed her trials and tribulations over it and her efforts to accomplish its removal, even going so far at one time as to consent to having the nose "skinned" by a quack. This was, however, prevented by the intervention of friends.

The vivid account of her troubles, and her tears over them, naturally made a profound impression on Mrs. P.; and when her friend discovered that she was *enccinte*, she was quite horrified, and said; "Now I am afraid your baby will be marked just as I am."

Mrs. B. had the same fear, but turned it off lightly by saying, "Well, if my baby is to be marked, I will mark it here," slapping herself on the right buttock.

This interview was related to me at the time just as I have stated it, and I therefore vouch for its correctness from my personal knowledge.

In November of the same year the child was born at full term, under my care, and presented a bright-red birth-mark on the right buttock, irregular in shape, and measuring about two and one-half by two inches.

The child still lives, with its mark as bright as ever.

I have always been sceptical as to the influence of maternal impressions; but I must say that this case has shaken my opinion.

The connection between cause and effect seems so unmistakable as hardly to be doubted. The same lady (Mrs. P.) has four other children, none showing any marks whatever.

We cannot explain such cases upon any rational basis, yet they occur so frequently as hardly to admit of a doubt as to their authenticity; and the belief in the reality of the maternal impressions as a cause is almost universal among women. Such a connection, however, between cause and effect as is presented in this case is not very frequent.

In the vast majority of instances where mothers see or hear things which they are "sure" will mark the infant, they are agreeably disappointed. Many such instances have come under my observation. Where a mother has carried through her pregnancy with the dread and positive

belief that the child was marked, and still had it on her mind up to the last moment of labor, yet such fears were not realized. So that while the evidence is strong that maternal impressions may mark the offspring, still the opposite is the rule,—that in cases of exposure to such impressions birth-marks or deformities are not found.

WASHINGTON, D.C., February 20, 1882.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

SERVICE OF DR. J. H. HUTCHINSON.

Reported by Dr. CHAS. H. WILLIAMS.

CASE OF TUBERCULAR MENINGITIS SUDDENLY DEVELOPED IN AN ADULT—CASE OF TWO RELAPSES FOLLOWING TYPHOID FEVER.

GENTLEMEN,—I bring before you this morning a case of unusual interest. It presents the following rather incomplete history.

J. R., æt. 23, born in Philadelphia, single, and a laborer, was admitted into the hospital January 22, 1882. Family history uncertain; but he always enjoyed good health until one year ago, when, after exposure to wet and cold, he was ill for two weeks with a fever and bad cough. The cough has continued ever since. The patient worked up to four weeks ago, when his weakness and cough forced him to stop. He denies all venereal history. Upon his admission to the wards he was much emaciated, face flushed, appetite poor, bowels regular, temperature $100\frac{1}{2}^{\circ}$, pulse 80, and respiration 24.

He had a cough, with muco-purulent expectoration; impaired resonance over both apices, more marked over the right; harsh respiration, and with prolonged expiration. Some fine râles were heard over the right apex, and fine crackling râles over the left. The urine was normal.

He was ordered sol. morphinæ, f3ss, and syrapi prun. virg., f3ss, t. d., and oleum morrhue, f3ss t. d.

On January 25, three days later, he appeared slightly delirious and much weaker. As the cod-liver oil seemed to sicken him, it was stopped, and quinine with some stimulants was ordered.

On January 29, when, in consequence of a transfer of the wards, he came under my care, the patient appeared partly unconscious, and was hard to rouse. Face was still flushed, tongue coated with a brownish fur, dry and fissured, and sordes appeared on teeth and gums. The right

pupil was more widely dilated than the left; the neck was stiff and could not be flexed; the feet were extended, and there was some stiffness of the arms, more marked on the left side, extension of which caused pain. There was dulness upon percussion under both clavicles, with crackling râles heard over the apices of both lungs.

On 31st instant he could not be roused enough to answer questions. The stiffness of the arms, legs, and neck was more marked. The same physical signs were present. The bowels were constipated, the urine passed involuntarily, and the pulse was very frequent, but not intermittent. The temperature-sheet, which I here show you, indicates a slight fever on entrance, with a marked rise of two degrees on the 25th, the first day of delirium, a fall again to normal, and a gradual rise up to the present time.

At present, as you see him to-day, he is perfectly unconscious. No efforts of mine to rouse him are of any avail.

There is no doubt, from the history and physical signs, that this man had phthisis when admitted into the wards. You will first notice his extreme emaciation and the retraction of his abdomen,—a reverse condition to that presented in typhoid fever. I will show you, also, a striking symptom well shown here. It is the redness of the skin following any slight irritation. If I draw my nail across his abdomen, you will notice very soon a red line or mark following it. From its special distinctness in meningitis this symptom is called “*tache méningitique*.” His feet, as you see, are extended, and the tendons of Achilles are so tense that I cannot flex them. The most marked symptom remains to be told. If I ask the nurse to raise the patient, it occasions apparently great pain, and the muscles of the shoulders are so rigid that he can raise the body by grasping the head. This condition of opisthotonus, the irregularity of the pupils, and the slight external strabismus or squint of the right eye, which are shown here, are very important symptoms.

We have, then, here a case that on admission was recognized as phthisis. Three days later, delirium and the accompanying symptoms, indicating an extension of the disease to the brain, set in; and when I first saw him he was unconscious, with the symptoms I have shown you to-day even more marked. This leaves but little doubt that he has a meningitis superadded to his

phthisis, or a tubercular meningitis. Had these later brain-symptoms been present in a previously healthy man, I should have considered the case one of simple meningitis; but the accompanying phthisis points to its tuberculous character.

This form of meningitis is very rare in an adult, and, if my memory does not fail me, it is the third case I have seen in this hospital during my extended term of service. Although rare in the adult, it is not an uncommon disease of childhood, and is usually connected with important symptoms, which I will briefly notice here.

This disease comes on, not suddenly, as in our patient, but very insidiously, its onset often at times extending over many months. Vomiting, not dependent upon food in the stomach, is an important symptom. Children will scream out wildly at night as if in great danger, with a peculiar cry known as the hydrocephalic cry. The pulse in the beginning is almost always increased in frequency,—often as high as 140,—but it may again grow very slow, then again quicker and more frequent, and finally irregular and intermittent. The friends and physicians will often be misled by the appearance at times of favorable symptoms, such as a return to consciousness and less rigidity; but this improvement is only delusive, not real, and the disease will surely return again in full force.

From the slight amount of delirium in our patient, I should say that most of the disease was situated at the base of the brain. The presence of tubercles at that point does not do as much harm as the inflammation which they excite.

The prognosis of this case is hopeless; it is necessarily fatal. The treatment is equally hopeless, as there are no remedies that will remove the tubercles. I, however, ordered a blister applied at the back of the neck, and gave him $\frac{f3j}{\text{of}} \text{ of } \text{infus. digitalis}$ four times daily, to assist in the removal of the effusion probably present at the base of the brain. I will continue this treatment, with liquid diet, although I consider the case quite hopeless. Yet we must always persevere, to guard against any possible mistake in the diagnosis.

Case II.—This young woman was in this room several weeks ago, suffering from typhoid fever, fully entered upon convalescence. At first there was some difficulty in forming a diagnosis, as she had been ill for some time before her admission, and

her attending physician outside had told her she was suffering from diphtheria. In a few days after her admission, however, the disease became so well developed as to convince me it was either typhoid fever following diphtheria, or more likely a relapse of typhoid fever. The patient had a large number of passages, and passed considerable blood from her bowels. This hemorrhage was preceded by a marked fall in the temperature, and followed by an anæmic condition. Whenever a sudden fall in the temperature occurs in typhoid fever, it should always lead you to suspect the occurrence of a hemorrhage into the bowels. On examining the temperature-sheet you will notice a very decided fall just before the hemorrhage occurred, followed by a corresponding rise; a little later on, another fall and rise, indicating another hemorrhage. The temperature then gradually decreased until the normal was reached. The patient was doing very well, and was considered quite convalescent, when, some bad news being communicated to her, she had a decided second relapse. The temperature ran through the same course as before, without the fluctuations occasioned by the hemorrhages; and we had present the same symptoms of tympanites, diarrhœa, spots, etc., as in the previous attack. In my mind I am convinced that we have had here two relapses, or a relapse following upon a relapse. A relapse is not uncommon in typhoid fever, although rare in other continued fevers, as measles or variola. In these latter we may have a recrudescence of the fever, of a hectic type, but never a regular return. What occasions these relapses I cannot say. They are said to be more common after cases in which constipation has been present, as the poison cannot so readily escape from the system. They are also more apt to follow mild attacks, perhaps because in these, patients are more easily led into imprudences than in more severe ones.

There are certain points of interest in regard to lines upon the nails, which occur in typhoid fever, to which attention lately has been directed. If you will notice here, you will see a decided white line running across each nail above the lunula marking the last relapse. This only shows that, there being a malnutrition during the fever, the growth of the nails is interfered with.

The treatment in this case has been very

simple. As long as the passages contained blood, a small quantity of opium and acetate of lead was administered. This, with mineral acids, quinine, and liquid diet, was all that was deemed necessary.

TRANSLATIONS.

FRACTURE OF THE INTERNAL EXTREMITY OF THE CLAVICLE.—The following case of fracture of the internal extremity of the clavicle, in the service of Prof. Guyon, Necker Hospital, is reported in *La France Médicale*.

M., male, æt. 39, in good general health, complained of inability to use right upper extremity. He had been struck on the external part of the right shoulder by a window-sash falling from a considerable height, two days previous to admission. The pain was then very intense over the whole region of the shoulder and inferior part of the breast, and was increased by the least movement of the arm. On presentation, the position was remarkable: the arm, lightly carried behind him, was drawn very near the trunk, the patient avoiding carefully the least movement. The head, a little inclined towards the fractured clavicle, was also inclined forward. The least alteration in these positions awakened great pain. Upon inspection, the region of the right clavicle presented a limited swelling, which occupied the whole of the internal half; a large ecchymosis existed about the same points, little marked about the region of the neck, but very extensive and diffused upon the superior part of the thorax. Upon the external part of the shoulder, on a level with the summit of the acromion, there was a slight abrasion, which was the point upon which the blow was received. Upon exploration by palpation, a fine *crépitation amidonnée* could be produced under slight pressure over nearly the whole ecchymosed region. More deeply we discovered an osseous tumor lying along the line of the clavicle, and which was continuous outward, diminishing progressively. Inwardly, on the contrary, was a sudden depression, a projection which did not correspond to the intra-clavicular space, but situated upon a point which could be traced a centimetre outward. The mensuration of the two clavicles gave the same length. Movement of the upper extremity produced a

sharp pain on a level of the internal clavicular region. The abduction and elevation of the arm were much less painful than the other movements, and the size of the tumor was unaffected. When, however, the arm was carried forward with adduction, the tumor was considerably reduced, but the pain at the same time was very severe.

The diagnosis was not very clear: we had some of the symptoms of the fracture of the internal portion of the clavicle described by M. Delens. We had the fusiform swelling, the absence of localized crepitation, and the position; but there was no shortening, the reduction was easy, if not complete, the tumor was attached, it is true, to the external part, but inward it ceased suddenly, and we could recognize by palpation an abrupt projection without irregularities which might readily be mistaken for the articular extremity of the clavicle. The diagnosis of luxation forward and upward was made with some reservation, but the progress of the case during the following days did not bear out this diagnosis. The ecchymosis was limited, and the whole crepitation disappeared. The osseous projection augmented quite rapidly, especially at the expense of the inferior aspect of the bone; its vertical diameter was, at the end of four days, three finger-breadths, and the fusiform swelling persisted. The projection became less and less defined and lost itself in the general swelling. The movements of the arm forward and inward no longer produced reduction, but affected the size of the tumor only a little. Eight days later the patient desired to leave the hospital. The pains were then much less severe, but all spontaneous movement was still impossible; the clavicular tumor made a considerable projection under the skin, and had then the dimensions of a mandarin orange. Six weeks later the patient returned to the hospital. The movements were yet very difficult and limited. The swelling in the region of the shoulder had almost entirely disappeared, and it was quite evident that the sterno-clavicular articulation was intact. There was, however, commencing upon it, a growth of callus large and irregular surrounding the inferior part about a centimetre outward, and at that time the mensuration of the fractured bone seemed to indicate a shortening of some millimetres.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MARCH 11, 1882.

EDITORIAL.

THE ETHICAL EXPERIMENTS OF
THE NEW YORK STATE SOCIETY.

AMONG the remarkable acts of the New York State Society at its late meeting was the passage of a resolution requesting the Legislature to require that the conferring of the title of Doctor in Medicine should be by medical colleges, only after the examination and recommendation of an independent board of examiners, which board shall be common to all the colleges. Some of our contemporaries seem to imagine that the adoption of this resolution was a triumph for the cause of good education. To us it seems a bone thrown to Cerberus, a delusion and a mockery, the work either of some one evilly disposed, or of some friend of the cause to whom nature has denied good judgment. To join in the cry of reform, to shout the very elect for the purpose of having some action brought about which shall be so radical as to destroy all chance of its being practical, has long been in this country a favorite device of those who would save their credit with the profession and at the same time prevent any change of system that would interfere with their pecuniary receipts in the present or the prospective future.

The apparent object of the resolution under discussion may be a very good one; but it is so plainly unattainable as to suggest the fable of the dog with the meat in his mouth grasping at the shadow, if the suspicion that it was proposed for sinister purposes be groundless. The medical colleges possess by charter the right to confer degrees; and, so long as they govern themselves in accord with their charters, it is

doubtful whether any legislative or judicial body has the power to deprive them of their franchises. If the resolution were carried out, it is plain that there would be a great falling off in the crowds of students who flock to New York City, largely on account of the great ease with which the ignorant can get degrees in one or two of the most popular institutions. The colleges united are powerful, and not overscrupulous as to means when an important end is to be attained: so that it is perfectly plain that even if any legislative or judicial body had the theoretical power to take away the conferring of degrees, such power would not find any exercise.

On the other hand, if the New York State Society, now that it has concluded to receive into its fold all ranks, conditions, and sects of medical practitioners, were earnestly to set to work, it could obtain at the next meeting of the Legislature a law which should make every "legal practitioner" a member of the medical society of his county, entitled to representation in the State Society; and then give to that State Society the appointing of one or more boards of examiners, who should alone possess the right of licensing to practise in the State of New York. The colleges certainly would not offer such violent opposition to this as to a law which would deprive them of the right of selling licenses to kill in distant unprotected communities.

What in the future is to be the effect of the recent action of the New York State Society concerning homœopathy no one can tell. The scientific and practical evidence does not leave room for a shadow of doubt that homœopathy is in its doctrines hopelessly false, that most of its practitioners do not believe in its truth, and do not in their daily life carry out what they affirm; but it is possible that ostracism, though well deserved, has helped to keep the body together, and that brought into a close embrace with truth this error may

disappear, leaving only as a contribution to the common heritage those grains of verity which are mixed with its slime of multitudinous lies. For good or for bad, however, the experiment is to be tried.

If, now, the New York State Society will go a step further, and organize the whole legalized profession against the common enemy of the profession and of the laity,—the medical colleges,—possibly it may prove the pioneer of good, and not of such confusion and misrule as will result from leaving its work half done. Complete the experiment, now that it is entered upon, and let us await the result.

PROFESSOR BRIDGES.

DR. ROBERT BRIDGES was born in Philadelphia, March 5, 1806, and died a bachelor at his home, in which he had resided twenty-eight years, February 20, 1882. He graduated first from the department of arts of Dickinson College, Carlisle, Pa., and then from the medical department of the University of Pennsylvania, March, 1828. His attention was directed mainly to medical chemistry and materia medica from the start, but he was also deservedly reputed to be a judicious general practitioner of medicine. At a very early period of his professional career he became the assistant of the professor of chemistry, the late Dr. Franklin Bache, in the Philadelphia College of Pharmacy, and, when that gentleman joined the Faculty of the Jefferson Medical College in 1842, succeeded him in the chair. Dr. Bridges delivered his last course of lectures in 1879. After thirty-seven years of acceptable and efficient teaching, he resigned his professorship on account of failing health. He retained the seat, which he had long held, at the board of trustees of the college, and was always present at the meetings, unless prevented by the condition of his health. To his long and persistent interest in the institution, his unremitting at-

tention and scrupulous integrity in the discharge of his duties, and his firmly conservative ways, the present prosperous condition of the college is to a considerable degree ascribed. As a token of the estimation of his services, the society of the alumni of the college established, March 11, 1879,—the time of his retirement,—the Bridges scholarship fund, the income from which is expended in aid of one or more poor students; and, March 31, the board of trustees elected him emeritus professor of chemistry, with an annual salary during life,—an example worthy of imitation by all bodies incorporated to impart instruction, general or technical, inasmuch as the vocation of teacher rarely affords, even to the most thrifty, opportunity to lay up a sufficient income to supply the wants of old age, however moderate they may be.

Dr. Bridges was a contributor to the *American Journal of Pharmacy*, of which he was assistant editor for many years. He edited reprints of Graham's, of Fownes's, and of Attfield's chemistries; and after the death of Dr. Bache in 1864 he was employed to do the work which had been done by him in revising and editing Wood and Bache's United States Dispensatory. He was perhaps especially well qualified for this employment through his experience as a member of the Committees of Revision and Publication of the Pharmacopœia appointed in 1860 and in 1870, and also as a member of committees of the College of Physicians of Philadelphia, to revise and prepare reports on the work to be submitted at the decennial meetings of the National Convention for the Revision of the Pharmacopœia of the United States.

In July, 1842, Dr. Bridges was elected a Fellow of the College of Physicians of Philadelphia, and was librarian of the Society during several years.

He was one of the council of the American Philosophical Society, of which he was chosen a member January 19, 1844.

In January, 1835, he was elected a member of the Academy of Natural Sciences of Philadelphia, and became conspicuous for his knowledge in all departments of natural history, and especially in botany. He prepared a list of the plants, embracing many thousands of species, contained in the herbarium—the first made—which was used for years as the guide to the collection.

He served the Society first as librarian, next as corresponding secretary, then as a Vice-President during fourteen years, and finally as President for one year, to which office he declined re-election, December, 1865. He was elected a trustee of the building fund of the Academy in 1867, and served on the building committee from the beginning of construction till the Society was established in the new building in 1876.

The conduct of Dr. Bridges everywhere throughout his life was characterized by modesty, benevolence, unselfishness, unswerving integrity in every sense, an amiable, generous disposition, and unremitting industry. His acquirements were diversified, accurate, extensive. Among medical men and pharmacists he was widely known by reputation throughout the country; and his personal associates soon came to regard him with almost affectionate respect.

LEADING ARTICLES.

WORN OUT: A STUDY IN PROGNOSIS.

NOT long since, the writer of this article was called, late in the night, to see, professionally, a gentleman very well known in business circles, who had just had a chill followed by decided fever. Into the posterior part of the right lung no air was entering, but no râle could be detected. Appropriate treatment was instituted, but the next morning it was plain that a pneumonia of moderate extent was inevitable. The case progressed without any remarkable event until the third day,

when the patient, at the morning visit, said, "Doctor, I am worn out; you can't do anything; only please let me drop out easily." When a hypochondriacal man or an hysterical woman makes such an assertion, the physician in attendance may well disregard it; but coming from a cool-headed, closely calculating man of business, accustomed to face great risks, and speaking seemingly without despondency or emotion, the statement was certainly startling. Still, on close study of the case, the patient's fixed belief did not seem warranted: even upon the very day of the fulfilment of the fatal prophecy the consultant physician gave a favorable prognosis. In our certainty of diagnosis we, as a profession, are less careful and less skilful in reading the minute evidences of conditions of the system than were physicians of fifty years ago, and a case like the present, with such unexpected result, will well bear close study.

At the time Mr. X. gave his fatal prognosis he had a pneumonic consolidation limited to part of one lobe of the lung, a pulse of 96, not at all weak, a temperature of about 102°, and respiration-rate of 28 to 30 per minute; was only sixty years of age, had always led a moral life, temperate in everything except work, and had a sound heart and kidneys. It seemed impossible to believe that a fatal result was at hand, and the writer of this could not help contrasting the case with one seen not long before, in which the patient was well past seventy years of age, had been a very hard drinker,—indeed, a confirmed toper,—was so wildly delirious that it was necessary to tie him in the bed, had for days a respiration-rate of 40 to 50, a pulse of 130 to 140, and a pneumonia seemingly as extensive as that of Mr. X., and yet finally recovered under the use of a pint or so of whisky per day, aided by almost unlimited amounts of tincture of digitalis, musk, etc. Nevertheless, in spite of all that could be done, Mr. X. died, seventy-two hours after he had given his opinion of his own condition, and on the sixth day of the disease.

What was it that made the difference in the two cases?

In Mr. X. it had been early noted that both radials were markedly atheromatous; it was, of course, recognized that this enhanced the gravity of the attack; but a much more serious cause for alarm was the

inability, from the very onset of the attack, to take or digest food in any save the smallest quantities. The older man was able, without gastric distress, to drink unlimited amounts of milk-punch, whilst a few ounces taken in the twenty-four hours as the result of great urgency on the part of the nurse produced nausea and distressing flatulence with Mr. X. This difference in digestive powers may at first sight seem to account for the varying result; but why in the crisis of disease was one man able and the other unable to eat? It may well be that the real cause of the fatal result was not the inability to digest food, but was that something, whatever its nature might be, which produced such inability to digest, the man dying not so much because he was unable to take sustenance, but being unable to take food because he was dying.

It is just here that the instructive lesson is to be drawn from Mr. X.'s case, and his own words, "worn out."

Inquiry since his death has shown that a number of his progenitors have died before reaching sixty years of age. Every one acknowledges that the human race has its limit of age, and that if no accident occur the individual man must die finally because the vital forces fail,—*i.e.*, the tissues arrive at such an age that they are no longer able to appropriate pabulum and renew themselves. Every one does not, however, recognize that families, as well as the race, have their allotted stock and time of vitality, and that it is perfectly possible for one human organism to be as old at thirty as another is at eighty. Threescore years and ten is only an average of old age taken from many individualities: the one family age may be fourscore, the other threescore. In these cases the several members of a family do not die of one disorder, but of various diseases, the common factor being not the disease, but the lack of the power to resist any disease which some accident may precipitate.

The atheromatous arteries of Mr. X., in this view of the matter, had a double significance in the absence of syphilis, alcoholism, or gout: they were an almost infallible sign that the organism before us was old, and ought to have formed a more important factor in our prognosis.

Seldom does such a death as that under our notice come without warning, but usually, as in this case, under the stress of

business pride, the warning had passed unheeded. Every year for two or three years Mr. X. had had a sharp attack of disease, and on several occasions had shown that same lack of reactive power whose intensity in his last illness led to the fatal result. Throughout his whole life Mr. X. had habitually allowed himself but two weeks a year of vacation, had felt himself continually strained by his work, and had recently passed through a month of excessive toil. If this organism, with the seal of old age early upon it, had been treated as old, life might have gone on quietly for years; but, when the labor of youth was voluntarily taken up because it seemed as though at sixty working-powers should not have failed, no wonder the result was as it was.

CHINOLIN AS A SUBSTITUTE FOR QUININE.

IF all that is asserted of chinolin be true, it certainly has advantages over many of its competitors for public recognition as a cheap substitute for quinine, in the abundance of its source and its antiseptic and antiperiodic properties. It was first prepared from Dippel's animal oil, nearly forty years ago, by Runge, and it is now recognized as a component part of coal-tar. Later it was obtained by distillation of quinine, cinchonine, and other alkaloids, and it may also be prepared synthetically by repeated distillations of a mixture of seventy-six parts of aniline, forty-eight of nitro-benzole, two hundred and forty of glycerin, and two hundred of sulphuric acid. It is an oily liquid, of peculiar odor; but when combined with tartaric acid as tartrate of chinolin, it forms silky crystals, closely resembling sulphate of quinine, and is soluble in water.

Chemically, as well as in its physiological action, chinolin is closely related to the cinchona alkaloids. Experiments conducted by Dr. Donath* and others go to prove that it has a noticeable lowering effect upon the temperature of the body, and that even in weak solutions it retards decomposition, whilst in stronger solutions it entirely prevents it. It also prevents the coagulation of egg-albumen and the formation of yeast-cells, and is an active poison to bacteria or fungous growths.

* Translation, Monthly Review of Medicine and Pharmacy.

The effect of chinolin on mucous membranes is somewhat irritant; but it may be taken in doses of thirty grains or more without harm. The mode of elimination of chinolin is still under investigation, it having been proved that it does not pass off in the urine, at least unchanged.

In regard to the therapeutic value of chinolin there remains much to be demonstrated, as hitherto its use has been limited to a few experimental cases. Dr. Harrington, of this city, reports the results of a trial of chinolin in the wards of the Jewish Hospital.* He employed the tartrate in four cases of intermittent, in doses of from ten to twenty grains dissolved in water. He states that the administration was not followed by emesis, except in one case, in which there was gastric irritability previously, the same patient subsequently retaining it well. It did not in any case produce ringing or buzzing in the ears; but the exhibition of the drug was followed by a lowering of the temperature and a partial cessation of the other attending symptoms. Judging from the limited number of cases, it would appear that chinolin tartrate has some antiperiodic action, but does not as yet fulfil all that is claimed for it.

W. N. W.

CORRESPONDENCE.

LONDON LETTER.

ONCE more the noble old institution of Guy's Hospital has been the scene of a coroner's inquest on one of the patients who died within its walls by misadventure. A patient with typhoid fever was being treated with sulphate of quinine in ten-grain doses, each dose being kept as a powder wrapped up in white paper. So soluble a matter as quinine could easily have been in a bottle, as it usually is. This is a little matter; but if the ordinary plan had been adopted the untoward accident could have been avoided altogether. The quinine was given in powder, that is the fact. The nurse had been absent a day or two, and on resuming her duties gave the patient a powder, after which alarming symptoms quickly presented themselves, and, despite the efforts made, the patient soon died. What the nurse really gave the patient was a powder consisting of *ten grains of morphia*. What were ten grains of morphia doing in a hospital ward folded up in white paper? every reader will inquire with surprise.

A great many here have asked the same question.

It will be remembered by the readers of these letters that not long ago a patient was practically scalded to death in this hospital by a nurse, and that the grand old charity has of late years been the scene of protracted civil war betwixt the new management and the existing medical staff. Guy's, it is known, is under the control of petticoats, including a matron and Sisters inspired by religious enthusiasm and entertaining a lofty contempt for the operations of the male mind, and especially the medical male mind. The ladies are in possession, and, whatever else they may be attaining, they are certainly alienating the trust and confidence of the public in their fitness to manage hospitals. Whatever may have been the defects of the management in the past, when the medical staff was habitually consulted, it did not reveal disaster after disaster of perfectly avoidable character, as is the fact now. An educated woman is preferable to an illiterate old body, not above the suspicion of a weakness for spirits, too often. That, as a broad rule, is valid enough. My own beds at my hospital are in charge of Sisters with nurses under them. My relations with these Sisters are of the very best and most cordial character. Their behavior is admirable, and I entertain a thorough unaffected respect for them. This explanation is given to illustrate the fact of no bias existing in my mind against Sisters in hospitals in the abstract. But at Guy's the Sisters have practically become masters; and what is the result? "By their fruits ye shall know them!" Misadventure, strife, uncharitableness, dissension, homicide,—these are the fruits of the new system. To go back to the mistake of giving one patient by the mouth ten grains of morphia intended for another cavity in another patient. Why were not the two powders placed in variously-colored wrappers? The dispenser explained that there was not any paper other than white on the premises. A very curious fact, certainly; though who is responsible for this, did not appear. Ten grains of morphia in a powder was certainly an unusual quantity? Yes, he said, it was. He had made inquiries accordingly, and been told that there was no mistake about the matter: it was ordered in full knowledge of its amount. He was under orders: so he certainly was not to blame. But the sooner wrapping-paper of various colors is purchased, the better.

The nurse had received no caution as to a morphia powder lying unmarked and indistinguishable among the quinine powders. Her mistake was a pardonable one. Who, then, was responsible? It is impossible to exculpate the Sister in charge of the ward. It is usual in hospitals to keep each patient's medicines on his or her own shelf at the bed-head. Had that simple rule been observed,

* Medical Bulletin, Monthly Review of Medicine and Pharmacy.

the mistake could not have happened. Then, again, it is customary to have proper poison-cupboards in hospital wards; and surely ten grains of morphia may fairly be regarded as "poison." Had the morphia powder been put in the poison-cupboard, the unfortunate accident could not have occurred. Here two simple rules of ward-management are set at open defiance; and why? This is not easy to see, unless it was the spirit of innovation rejecting old-established rules, simply from a wanton spirit of change or unrule. Having flagrantly violated these two rules, the Sister might have warned the nurse that there was a powder of morphia, and not quinine, lying about somewhere. Even this was not done.

A young woman, a wife and mother, a valuable life in her little social circle, is poisoned in a hospital where she was being nursed through an attack of typhoid fever. That is the result of the new management so persistently upheld by the ruling powers at Guy's. Why were these drugs left to be manipulated by the ward Sister, instead of being sent up in solution, as is usual? That is a question asked by many. Ten grains of morphia would have kept as well in solution as in powder, and in solution could have been placed in a "poison-bottle," and then the nurse would have been put upon her guard. What was the powder of ten grains of morphia intended for? That is a matter which has evoked the curiosity of many. Its destination was the bladder of a patient in another bed. That is now no secret. But why were not some precautions of some kind or other observed in the matter? It is a miserable affair, look at it from what point of view one will. Nor was the treatment of the patient after the mistake occurred much better. For generations the profession has been more or less familiar with the utility of belladonna as an antidote (or rather an antagonist) to opium-poisoning, but somehow or other the medical residents at Guy's manifested no acquaintance with this fact, or, if acquainted with it, they did not choose to try the measure. One of the resident officers, in the guilelessness of his young heart, wrote to a daily newspaper to vindicate himself from any suspicion, and stated that he had tried every measure; and yet no mention of the employment of belladonna is hinted at, even. So slowly does knowledge filter through the various strata of the medical world. I suppose anything like general familiarity with the fact will only be attained by the notoriety of some trial, when the defence will be set up that belladonna was not given to the patient dying from opium or its derivative morphia, and then when the lay world is alive to the matter the profession will be awakened, and rub its eyes, and wonder how it happens that it has slumbered so long in the matter. It will be another opportunity for those who do not love the medical pro-

fession to throw a stone at it, and an instance that exoteric influence is sometimes required to institute changes that ought to spring up esoterically, or might fairly be expected to do so.

For some time past we have been well shrouded in fog, of varying density. The present condition of comparative calm with fog reminds one of the state of matters two years ago, when hundreds fell victims to the murderous fog-cloud which slowly floated back and forward up and down the Thames valley. Wherever it rested for a time death followed in its wake. Capillary bronchitis was the consequence of the irritation set up by the peccant matters; and how fatal a malady this is, is well known to all who have been brought in contact therewith. So serious are the recurrent fogs we have experienced of late years that a strong movement is set on foot to deal practically with the dangerous nuisance, and a "Smoke-Abatement Exhibition" is now going on at South Kensington under royal patronage. A very interesting exhibition it is, and all kinds of stoves are there, each exhibitor vying with his neighbor to produce the most perfect combustion of coal. Especially is the anthracite, or smokeless Welsh steam coal, advocated. The difficulty of this coal is to persuade it to light: once going, it is a splendid article. No coaxing will induce it to take fire under the ordinary domestic regulations' as to fire-lighting: a "blower" is requisite for its ready combustion. But carefully packed upon a fire lighted by ordinary house-coal, it burns without smoke, and with a minimum of ash. The English domestic is, however, a thorough-going conservative, tenacious of what is well established and time-honored, and not given to adopting any new-fangled notions hastily or without proper consideration. Anyhow, there is no harm in attempting to disseminate a little knowledge which may filter downward in the course of time and reach the ordinary domestic about the millennium. Lectures are given bearing on the subject, and the writer was requested to give a lecture upon "The Effects of Coal-Smoke upon the Human Body." So the subject was cogitated over, and the lecture ran upon the following lines, which may not be altogether uninteresting to the people of Pennsylvania, which possesses liberal supplies of coal within its borders. A fog, as understood in London, is a smoke-cloud from the quantity of matter furnished by the myriads of smoking chimneys in this large aggregation of human beings. Rome burnt wood, and from its position did not require so much artificial heat as London does. The effects of "sea-borne coal" in relation to fogs have long been recognized in London. Now the bulk of coal is brought by railway, and its consumption is enormous, as the Britisher dearly loves an open fire. Such fire may be waste-

ful, may increase immensely the amount of smoke in the air; but John Bull is distinctly conservative in the matter. The flickering of the flame, the ruddy glow of the open fire-grate, are dear to him. No pun is intended here! He looks upon the stoves of his Continental neighbors as convincing proof of their inferiority, and regards them with aversion. Cheap coal at home causes him to regard the stove as a mean piece of economy of which he has no occasion to be guilty. He does not like the foreign-looking thing, and will have none of it. However, the amount of fog we have recently experienced is compelling him to give some attention to the matter. When traffic in the city is arrested and business all but suspended, the commercial instincts of the old man are aroused; and he is beginning to believe that he is losing something by these fogs. If that impression could only root itself in his brain, he would begin to bestir himself in earnest. Knowing the sensitiveness about the region of his left trousers pocket, my lecture headed in that direction, so far as the subject would permit, by including the effect of coal-smoke upon the nervous system. Commencing by alluding to the use of tar-smoke in plagues, either amidst human beings or cattle, and the belief in the utility of fumes in the curing of meat, as ham and haddock, as well as the effects of the creasote so produced as a disinfectant for the living when exposed to contagion (as a preservative and a hygienic measure), the lecture went on to point out the effects of unconsumed matters as mechanical irritants to the air-passages. The black lungs of Newcastle miners are due to the deposit in them of carbon, as was shown by the late Sir Robert Christison long ago. (Dr. Peacock found that the phthisis of Cornish miners was not, however, connected with any foreign matters in the lungs,—an observation not destitute of interest.) "Black lungs" are quite common among persons who have lived any length of time in London. Then the chlorine given off and the sulphurous acid are chemical irritants not without potency. Chronic bronchitis, varying from a serious matter down to a mere inconvenience, is common among the inhabitants of the numerous manufacturing towns which lie on each side of the backbone of England. In the morning everybody seems to be hawking and spitting, till the streets are simply revolting and utterly unfit for ladies with long dresses to walk upon. When resident in Leeds, twelve years ago, the atmosphere drove me to adopt a respirator (my nose not being the family ploughshare and being disproportionate to my thorax) as a preservative measure, and experience encourages its use as such. After a fog the nostrils are like chimneys, and are lined with a layer of black smut. The expectoration is black from the amount of carbon arrested in the mucus of the air-passages.

For a day or two after exposure to a smut-laden atmosphere, black phlegm is brought up. That soot is an irritant to the tissues is demonstrated by the fact of "chimney-sweep's cancer," a well-recognized disease. Yet if the curious reader will look into Pereira's large work on *materia medica*, he will find directions for the preparation of a "soot ointment," and even an infusion of soot as a tonic; while soot as tooth-powder was in quite common use a few years ago. So much for fashion in medicaments. Chronic bronchitis is not the only form of disease of the respiratory organs instituted by inhaled irritants: cirrhosis of the lungs is also the result thereof. "Sheffield grinders' asthma," "potters' phthisis," from the scouring of "bis-cuit-ware," "millstone-makers' phthisis," the phthisis of linen-dressers, of feather-workers, of millers and bakers, all are well-recognized types of disease. Beyond these direct effects upon the respiratory organs, the products of coal-smoke have other consequences upon the human frame. Coal-gas is a deadly poison, suspending consciousness first and then arresting the respiration and circulation, as is well known. Carbonic acid gas may be as fatal as the fumes of charcoal, often utilized for the purpose of suicide. In a less degree it produces lethargy and sleepiness; and sometimes the imperfect ventilation of the building, rather than the lack of interest in what is said by the speaker, is the cause of an inattentive, slumbering audience. A more decided poison still is the less oxygenized carbonic oxide which is the outcome of the imperfect combustion of coal. This and coal-gas are worse than carbonic acid in their effects upon the nervous system. Imperfectly consumed coal-products are more deleterious than the completely oxidized carbonic acid. Any one who has watched a coal fire burning must be familiar with the little volcanoes throwing out a jet of gas, which are found in partly-consumed coals,—now a dark puff, now a flame like that of a gas-burner. Here is coal-gas given off without any mistake. The effects of these olefiant gases and of carbonic oxide upon the nervous system, in acute poisoning, are well known; but the chronic effects of them in high dilution in the air are less familiar to us. "Depression of spirits and confusion of thought" are part of the subjective phenomena of such poisoning; and any one who has tried to do a square, honest day's work in a thick fog knows something in the matter. Depression, a sense of intellectual incapacity, and irritability of temper are the nervous outcomes of air so polluted, to say nothing of the local effects of a stinking fog, when the air-tubes feel as if wires were introduced into them, and the back of the pharynx is irritated by carbon particles. A pleasant condition of affairs for a huge hive of workers, as London unquestionably is, despite an

immense idle population who scarcely know how to kill their time. Worker and idler alike are rendered uncomfortable. Nay, more. Some years ago the fog existing during the famous Islington Cattle Show set up such disturbances of the respiratory organs that many of the beasts had to be slaughtered; and many a person who comes up from the country for a few days on business or pleasure is killed by fog. The stranger within the gates perishes outright; the regular inhabitant is more slowly poisoned. His nervous system is depressed and unstrung; his temper is upset; and, still worse, his appetite is impaired. London fog is certainly not appetizing, but the very reverse. Just as "nausea and vomiting" are part of carbonic oxide poisoning in its acuter forms, so anorexia and a distaste for food are the outcomes of more chronic intoxication. Alcoholic beverages have a clear *raison d'être* in fogs, and in smoky neighborhoods the consumption of alcohol is pronounced. Nor is this to be wondered at, when to impaired nutrition is added the depression produced by a nerve-poison, and the acute loss of appetite created by a London fog.

The next lecture was delivered by Prof. Judd, who explained that the fireplaces of the half-million households of London were constructed only to burn the soft, smoky household coals now in use, and not the hard, smokeless coal which ought to be burnt, in all large towns especially. He went on to say that there was every reason to believe that under London, or its immediate vicinity, there lay beds of this very identical hard coal, and that, too, at distances below the surface which would render them quite easy of access. When these coal-beds were worked, the people of London would have coal much cheaper than heretofore, and this variety of coal would give off infinitely less smoke; and so the metropolis would be relieved of the fogs which now render it almost unfit for habitation. Colliery-chimneys on the Surry hills, or along the ridge to the north of London! Horrible thought for Mr. Ruskin or the æsthetics! But for the myriads of humble toilers in London, good news; and for all, workers and idlers alike, the prospect of being relieved, if only partly, from these hateful fogs to which we are now so subject, is too good to be credible, almost. As to those who already suffer from disease of the respiratory organs, fogs are a source of the greatest danger to life. At the Victoria Park Hospital, recently, a severe fog caused four consumptive patients to collapse fatally, while many others were very ill.

J. MILNER FOTHERGILL.

THE death is reported of the famous physiologist Dr. Theodore Schwann, in the seventy-third year of his age.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the College of Physicians, Philadelphia, December 14, 1881, Dr. Albert H. Smith, President of the Society, in the chair. Dr. J. William White read a paper on "The Prevention of Syphilis" (see page 225), discussion of which was indefinitely postponed at the request of the author, and the subject referred to a committee, to report not earlier than one year from the date of appointment.

Dr. E. L. Keyes, of New York, by invitation read a paper on the "Treatment of Syphilis" (see page 337). A vote of thanks was tendered to the lecturers for their interesting communications.

DISCUSSION UPON THE TREATMENT OF SYPHILIS.

Dr. L. A. Duhring spoke in corroboration of the views expressed by the lecturer, and said that he was impressed, from experience, with the propriety of the measures recommended. He had struck the key-note,—moderation in the use of mercury. There can be no question that mercury is the remedy in syphilis. In thinking over the many cases that had come under his observation during the past fifteen years, he could recall few which had been over-treated by mercury; the majority did not get enough. He had rarely seen any serious or permanent ill effects from mercury, even in the wards of the Philadelphia Hospital. Urging the free but moderate use of mercury, he said that it was rare in private practice for patients to get enough mercury or to continue it for a sufficient length of time. The great trouble is that patients drop off the treatment at the end of a year or so, believing themselves cured, or, influenced by the remarks of others, they disregard the importance of continuing, and the usual sequelæ follow.

Notwithstanding this, there are some cases in which success does not attend the treatment, even when given as directed by the lecturer. In several cases patients had taken the remedies until within the second year; then, almost while taking the mercury, certainly shortly afterwards, they showed obscure nervous symptoms. Cases like this tend to shake confidence; but in discussing the question failures should be reported as well as successes. At the same time, any one who will take the treatment of Dr. Keyes would, he thought, be satisfied with it after a few years' trial. The difficulty is in keeping up the treatment for a long enough time, for the patients get discouraged and go to other physicians, who, perhaps, would not give them the same advice.

With regard to the benefit of local treatment in the syphilodermata, and more especially the squamous eruptions, he would scarcely lay so much stress on local applications. The more he saw of diseases of the skin of a syphilitic character, the more impressed he became with the value of judicious constitutional treatment, and less with that of local treatment, except, of course, where it was obviously demanded. In this connection he reported a case of a gentleman who had been under the care of a number of physicians, with a squamous syphiloderm of both palms, which had been looked upon as chronic eczema and received local treatment for fifteen months without benefit. When he came under the speaker's care, the man was perfectly sound except the skin affection. He was ordered iodide of potassium (gr. v) and biniodide of mercury (gr. $\frac{1}{8}$) three times a day, and in the course of a few months he recovered entirely, the local treatment having been totally abandoned. This occurred several years ago, and the patient, he believed, was well to-day.

The object of these remarks was—first, to corroborate the views expressed by the lecturer; secondly, to insist upon the importance of continuing the treatment for several years; and, finally, to acknowledge that it sometimes unaccountably fails.

Dr. Carl Seiler said that he was glad to hear the lecturer speak of the value of local treatment in syphilitic manifestations, for he had read a paper before the American Medical Association upon Syphilitic Laryngitis, wherein he advocated local treatment, and was severely criticised by a large number of the members for this recommendation; but he held to his own opinion, and would thank Dr. Keyes for substantiating this method of treatment.

Dr. Chas. B. Nancrede referred to the use of the hæmacytometer and the fact that in syphilis mercury increases the number of the red blood-cells. He said that he could not understand the prejudice against mercury: he found it essential in syphilis, and also used it in eye-diseases where there is no suspicion of syphilis.

Dr. Levis inquired the value of iodoform in syphilis; and the President suggested discussion of the treatment of congenital and hereditary syphilis.

Dr. John B. Roberts said that some five or six years ago he had been struck with Dr. Keyes's article on "The Treatment of Syphilis by Tonic Doses of Mercury." He was astonished at this use of the word "tonic," as it entirely differed from his former views.

He inquired of the lecturer whether he finds that scrofulous patients, often merely hereditary syphilitics, respond in any different manner to treatment than subjects of the acquired form; secondly, as to the combination of iodine and mercury in prescription;

thirdly, as to the comparative values of the iodides of potassium, sodium, and ammonium; fourthly, as to the use of mercury by suppository; and, finally, as to the value of sulphate of copper in syphilis.

Dr. W. S. Little said that in treating syphilitic eye-disorders, where the disease is limited to the sclerotic and cornea, mercury is the treatment; but where the iris, ciliary body, and choroid are involved, the combination of mercury and iodine is required.

In syphilitic keratitis the combination of mercury with any form of tonic will meet with prompt improvement: he usually combines the mercury with quinine. In syphilitic retinitis, iodide of potassium with strychnia is preferable, strychnia being given in the later stage of the treatment.

Dr. J. William White said that the propositions of the lecturer admitted of very little discussion, as no one with experience in syphilis questions the advantages of methods adopted; but with regard to the *theory* of treatment he would take advantage of Dr. Keyes's presence to ask for information.

One of the most satisfactory theories in its explanation of the effects of treatment is that depending upon the application of what is known as the lymphatic theory of syphilitic infection, and by which the relief afforded by mercury is attributed to the well-known influence of mercury upon newly-formed structures wherever they are found. By this theory syphilis depends upon the introduction into the organism of a diseased cell, which, at its point of entrance, produces a chancre. From thence it passes by the lymphatic channels, producing bubo in the groin; then, entering the general circulation, it especially affects the white blood-cells, combining with or infecting the germinal material, to which it conveys its specific properties of rapid multiplication and immature development. The growth and accumulation of these cells are the source of all the secondary symptoms of syphilis. The functions of the lymphatics are interfered with during this stage, and later they are contracted or obliterated, as a result of long-continued irritation, and the imperfectly-formed or waste tissue accumulates at various points, producing the so-called tertiary symptoms, there being no discoverable difference, histologically, between ordinary waste elements and those resulting from the late developments of syphilis.

The good results obtained by the use of mercury are attributed to its eliminative effect upon the newly-formed cells, the fatty degeneration and absorption of which it strongly favors. The iodides are also moderately serviceable in the early stages, for the same reason. In the later periods the theoretical indication would then be to flog up the crippled lymphatics and stimulate them to more active absorption, so as to prevent accumulation of nutritive waste, or, in other words, to

prevent the development of gummata, nodes, and other tertiary phenomena. This offers an explanation of the usefulness of the iodides in the later stages.

It is certainly a very beautiful theory, but needs further investigation to insure its general reception by the profession and to fully establish it. The opinion of the lecturer was requested upon these views.

Dr. Keyes, in closing, thanked the gentlemen who had taken part in the discussion for the interest shown and their courteous treatment. Before answering queries proposed, he exhibited two specimens of iodide of starch, referred to in the paper, made according to McCall Anderson's formula (containing five per cent. of iodine), except that he had lately substituted boiled-rice starch for the customary raw-wheat starch in the manufacture. It agrees with the stomach, and is an elegant preparation, but its great objection is its bulk where large doses of iodine are required. It cannot take the place of iodide of potassium, but under certain circumstances is an admirable substitute. In reply to Dr. Duhring, he said that he would not pretend that the tonic treatment or any other would always keep off the late effects of syphilis, but he would claim that it is nearly always efficient in preventing grave late symptoms, that it is harmless, and better borne, as a rule, than any other treatment, and in the majority of cases most satisfactory to the patient and physician. With regard to the local treatment he was misunderstood. He wished to say that if a patient is already upon the tonic treatment and an isolated manifestation should crop out, instead of running up the mercurial dose he would merely add a local to the general treatment. For local applications he liked best the acid nitrate of mercury diluted to different strengths, sometimes used pure, at long intervals, upon isolated mucous or cutaneous lesions, but diluted one in eight or more parts of water for frequent use. Local treatment with small doses of mercury he considers better than the attempt to control symptoms by large doses, which disturb the general health. The observations with the *hématomètre* showed that large doses do have this effect upon the system. When the patient has a local eruption, he believed in general treatment, but not to the exclusion of local treatment. Rather than increase the doses, he would extend the time for the mild course. The bichloride of mercury has been recognized as a tonic, even in popular remedies; for instance, Swaim's Panacea, a tonic much used by the late Valentine Mott, containing one-half to one grain in three ounces of compound tincture of cinchona. He thought highly of its value for strumous children. The value of small doses of mercury is generally admitted in fibrous phthisis, in degeneration of the kidney, where it is

given in combination with tincture of the chloride of iron.

The use of mercury as an antisymphilitic is well established. The reason why he had referred to the "tonic" use of mercury in syphilis was because he had been misunderstood. Some of the journals had said that he had claimed that mercury cured syphilis *because* it was a tonic. This was wrong. He claimed that it cured syphilis and also was a tonic. He had tried mercury upon himself, not having syphilis; he wished to ascertain its physiological effect. The same experiment was tried upon Dr. Stimson; and in both instances the mild mercurial course increased the corpuscular richness of the blood.

Iodoform is an exceedingly good application for syphilitic sores; but its smell forbids its use in private practice among decent people. Internally, he had given as much as five or six grains three times a day, without any material advantage, in syphilis. He had subsequently used it in small doses in chronic tertiary affections of the tongue, as recommended by Berkeley Hill, but had not conceived a favorable idea of its value. He did not see very much of congenital syphilis. He had not seen, out of fifty or sixty cases, any syphilitic children in the families of young men who, having followed out his course, were afterwards allowed to marry.

Women possess the power of procreating syphilitic offspring for a longer period than males. For infantile syphilis he had used various forms of mercurial inunction and gray powder internally. Young children tolerate mercury very well; but he preferred the use of the bichloride of mercury in solution (distilled water, ℥viii to xij ; mercury bichloride, gr. i), giving a teaspoonful every hour. The youngest babies will take one-ninety-sixth of a grain every hour for a number of days without showing the slightest inconvenience of bowels or stomach. This is not to be kept up continually, but is diminished according to its effects upon the symptoms. He had even given it during diarrhoea in summer, without increasing the looseness. He liked this form of mercury for children. As to whether it is a tonic in the case of scrofulous children, he could only refer to its employment in the tonic of Valentine Mott, which is used very frequently for secondary engorgement.

With reference to the mixed treatment, he sometimes uses the protiodide of mercury and the iodide,—the former in pill, the latter in solution; but he prefers the combination of biniodide of mercury and iodide of potassium in the same mixture. He occasionally uses small doses of calomel, frequently repeated, when he wishes to obtain a special effect; sometimes he resorts to fumigation. He gives mixed treatment, as almost every one else does, and

uses inunction, with the iodide internally, and so on. He had seen it noticed in the books that when taking the protiodide a patient should not take iodide of potassium, for fear of forming a biniodide in the stomach. He had never known this to happen, although it occurs when the bichloride is added to a solution of iodide of potassium; but instead of this he usually prefers giving the biniodide directly (one-thirtieth to one-fiftieth grain), with a certain amount of the iodide of potassium, according to circumstances.

With regard to the comparative value of the potassium and sodium salt, they contain about the same proportion of iodine, but the sodium salt agrees better with the stomach, while the potassium is more efficient. He had used the sodium salt and the biniodide of mercury by enema when the stomach would not tolerate the remedy, but would now use the iodide of starch in such a case. He had not used mercury by suppositories except in very rare instances; inunction is better by the skin than by the rectum. The external use of bichloride dissolved in cologne-water is a very elegant method of application, and exercises a certain amount of specific action. Sulphate of copper he had never tried; he had formerly used the chloride of gold, but was utterly disappointed; perhaps he will try the sulphate of copper.

With regard to Dr. Risley's remarks, he said that he saw very little of eye-disorders, and perhaps gummata of the eye were different from periosteal gummata, but the latter will fade away in a few days if the iodide is pushed promptly; also under mercury they may be made to disappear, but less promptly, and sometimes, apparently, not at all.

Mercurial fumigations are very valuable in chronic diseases of the skin, and gummata of the skin, or brain and meninges; but his experience is that iodide of potassium gives a more permanent result, and he had come to the conclusion that the more gummata the lesion the more use there was for iodide of potassium, and the less for mercury.

As to the theory of Dr. Otis, it has been well described as a beautiful theory, but thus far it rests solely upon induction. That the mercury causes fatty degeneration of the syphilitic deposit may or may not be true, but, if so, the small doses will cause fatty degeneration of those structures, and not of the healthy ones. This is not of much importance; but the other view, that the iodide acts by opening the lymph-channels, and sweeps away the accumulation of waste material, seems to be overturned by the fact that mercury will cure gummata without opening the lymph-channels, while iodide of potassium will cause early eruptions to disappear, without inducing fatty degeneration.

He did not deny it, but did not consider it fully established, or essential to a fair knowledge of the correct treatment of syphilis.

SOCIETY FOR MEDICAL IMPROVEMENT, BOSTON.

January 28, 1882.

DR. C. M. GREEN read an interesting *résumé* of thirty-five obstetric cases, of which twenty-seven were multiparæ and eight primiparæ, all of them being provided for purposes of clinical instruction by the Boston Dispensary. There were twenty-three occipito-left-anterior presentations; six occipito-right-anterior; four occipito-right-posterior; sacral right anterior, and sacral left anterior, one each. No deaths, either maternal or infantile. There were two cases of twins, one having a single large placenta, with divided ridge and two cords; the other a double placenta and two cords. There was one case of miscarriage, the fœtus being dead, resulting from over-fatigue, no motion having been felt for one month previous to abortion. One case of brow presentation. Labor had been in process thirty-six hours before the head passed superior strait. During first strong pain head was flexed by pressure upward on frontal bones; occiput then rotated forward and delivery ensued. This was supposed to be one of those cases in which, the pelvis being slightly narrowed, the head becomes extended in endeavor to pass the brim, and the bitemporal diameter passes where the somewhat larger sub-occipito-bregmatic will not. Schroeder considers this mechanism good evidence of a slight pelvic flatness. Such malpresentations frequently correct themselves in cavity of pelvis, and thus, unless detected early, escape notice. There were three cases of instrumental interference:

a. Multipara, æt. 27 (three out of five previous children still-born), fifteen hours in labor when pains became ineffectual. Head on the perineum, and child dead. The attending student called a physician, who applied forceps, and delivered the head, but was unable to deliver the body. One drachm of fluid extract ergot was administered, and a putrid fœtus delivered by traction. Placenta being adherent was extracted by hand; was small and shrunken. Patient was doubtless syphilitic. Case mentioned in order to criticise application of forceps to a putrid head; the cranioclast, it was thought, would have been more suitable and safer. Dr. Green also objected to the use of ergot to stimulate a uterus to expel even a putrid child; for if placenta be adherent, as in this case, it is more difficult of removal from a contracted uterus.

b. Primipara, æt. 24, at expiration of forty-eight hours of labor, first stage was not completed. Had received forty-five grains chloral in three doses; had also taken ether. Pains being inefficient, dilatation was completed manually, and forceps applied. To avoid rupture of perineum, it was incised laterally. Placenta retained. Crêdè's method failed. The hand was therefore introduced, and found placenta adherent and encysted. Constrict-

tion was dilated and placenta easily removed. Patient received carbolized douches for a week, and made good recovery.

c. Primipara, æt. 24, in labor twenty-four hours, os about half dilated. Head had not entered pelvis, and, there being a sufficiency of hydramnios, membranes were ruptured. Head now engaged in pelvic brim, but, because of uterine inertia, failed to advance. After lapse of a second twenty-four hours, patient's condition being good, forceps were applied at superior strait. Strong traction delivered a large child, but perineum tore as far as one and one-half inches up the rectum. Primary operation on perineum was deferred; urine passed by catheter for one week; vagina douched with carbolized injection during two weeks. Then found that rectal tear had completely healed. On rising, patient had one involuntary movement; has since had perfect command of sphincter. To prevent future displacements of womb, operation for restoration of perineal body will be done at completion of lactation. Examination disclosed a stellate laceration of cervix not demanding interference.

Students were directed to prevent passage of head through outlet until perineum became fully dilated. Ordering patient to cease bearing down, and counter-pressure on head, when needed, were the means adopted to this end. Were also taught to extrude head by gentle manipulations between pains and after occiput had passed under pubic arch. Results: in four of eight primiparæ, perineum not ruptured; in two cases, slightly torn, no operation needed; in one case, ruptured nearly to anus, operation refused; in one completely ruptured. In twenty-six multiparæ, perineum not ruptured, possibly because sufficiently torn in former confinements.

There was one case of post-partum hemorrhage. Patient cold, restless; bathed in cold sweat; pulse 100. Ergot, stimulants, ice in the vagina, all failed. Hemorrhage finally arrested by application of persulphate of iron on a swab.

No case of septicæmia, owing to faithfulness of students in charge, who, in many cases where lochia became fetid, administered carbolized vaginal douches. Thirty-two patients suckled their infants.

One case showed how much puerperal women may bear without evident harm:—Multipara, æt. 33; been twice in insane asylums within four years. In July last, incarcerated for extreme violence while under influence of alcohol; discharged next day. At all times irritable and jealous; beat her children without mercy. Confined in August, six weeks after discharge from asylum. On night after labor demanded liquor, then rose and washed soiled linen by placing it on the floor and pouring water over it; also cooked and ate beefsteak. Child was fed on watermelon and whisky, and finally quieted with

laudanum. Next day woman looked wild, but showed no ill effects; pulse and temperature normal. Considering her history, this outbreak was thought transitory mania, alcohol being the exciting cause.

In reference to Dr. Green's paper, Dr. Francis Minot said that increased use of forceps of late years not only saved much suffering, but rendered convalescence freer of danger and more rapid. He probably used forceps more frequently than most practitioners. In two hundred and eighty-two private cases he delivered with forceps ninety-two times,—thirty-two per cent. He thought his results as favorable as those of most physicians. No death, nor unusual number of lacerations, floodings, etc., had occurred at his hands from the use of instruments. In a series of one hundred and fifty-one labors there were twelve serious hemorrhages; in three of these cases forceps were used, but in each instance for exhaustion, inefficient pains, or tedious, difficult labor. In the ninety-two forceps cases, fifty-eight per cent. were male children, forty-two per cent. female. In nineteen cases occiput was posterior,—eleven male, eight female children.

Had often incised the thin edge of perineum during labor, in primiparæ, but, judging from his record, with little benefit. In many cases it did not prevent a tear in median line, occasionally to a considerable extent.

In treatment of post-partum hemorrhage he referred to the fact that it was rarely fatal, and that the large number of remedies thought successful showed that the condition probably was but little influenced by any of them. Was accustomed to rely upon compression of aorta, which is easily done, and he thought it quite efficient.

Alarming symptoms succeeding upon use of carbolized vaginal injections in two cases, during convalescence after labor, proved to him that the procedure was unsafe. Where there was fetor in discharges he preferred a swab wet with carbolized solution. In the majority of the forceps cases the head, naturally, was on the perineum, and the instrument was used to prevent a tedious and, as he thought, a needless delay.

Dr. W. L. Richardson said he had often remarked a tendency to post-partum hemorrhage after the use of ether. Very rarely used ether; had never seen a hemorrhage after labor. During first stage nearly always gave chloral in gramme doses every twenty minutes until three doses had been taken, and thus avoided use of ether. Uterus being a hollow muscle, could not understand why ether should not relax that organ as well as any other muscle of the body. Agreed with Dr. Minot in regard to frequent use of forceps. They not only prevented suffering, but shortened convalescence, and enabled one to protect perineum from injury. Was especially interested in case of Dr. Green's in

which occiput presented posteriorly. Thought physicians erred greatly in being contented with presentation without ascertaining the position as early as possible. In cases of occiput posterior we should remember liability of extension of head. Application of pressure on anterior portion, as in Dr. Green's case, promotes flexion, and thus permits subsequent rotation of occiput forward. In cases seen in consultation, when this pressure had failed, he had been able to flex head by forceps applied with curve reversed. In examining statistics had been struck by large number of cases of septicæmia following birth of putrid child. Had, therefore, for past few years, at Boston Lying-In Hospital, always used intra-carbolized injections after birth of putrid fœtus. Had thus avoided high temperatures which followed such labors before the use of injections.

Dr. Reynolds refused to admit danger of hemorrhage from ether, provided the drug were administered with ordinary discretion. He would weigh strain upon mother's system, induced by unrelieved suffering, against any supposed relaxation of uterine fibre, caused by proper use of the anæsthetic, as a factor of equal if not greater importance in causation of hemorrhage. While rarely conducting labor of any length without anæsthesia, had seldom seen serious hemorrhage. Believed that, in private cases, careful management, increase and saving of strength of patient before labor, watchfulness of the process, and proper tarry with patient after delivery would lessen liability of bleeding. Would use moderate dose of ergot after free use of ether if uterus were first entirely emptied.

Endorsing Dr. Richardson's remarks on the necessity of early detection of the presentation, he emphasized the distinction between mere posterior variety of either left or right cranial position, and the same variety when combined with loss of due flexion. In the former there is no interference with normal mechanism, unless it be the possible loss of the few moments occupied by passage of the occipital end through three-eighths of pelvic circle instead of the shorter space. In the other case, flexion being much lessened, and posterior fontanel being discovered only with much trouble, or not at all, everything indicates a difficult expulsion, and the perverse rotation which will bring frontal end of cranium to front wall of pelvis, and a probable emergence of occiput backward, over the perineum.

The greatly increased suffering, and risk of injury to patient, thus created, should be remembered by attendants. In this, as in a thousand other obstetrical embarrassments, thorough care on part of accoucheur involves presence early in labor, and watchful and alert mind.

In the few obstetric cases reported by reader, two instances of adherent placenta

were hardly to be expected. In one of them syphilis existed, and was sufficient cause. In the other, real adherence probably did not occur. True adhesion of placenta bears small proportion to the large number found in obstetric reports, the majority of these placenta probably being held by mere suction, as a boot clings to deep clay.

Dr. Charles H. Williams, having proved its use in affections of the conjunctiva, suggested a saturated solution of boracic acid as substitute for carbolized injections after labor.

Dr. J. Collins Warren, in reference to dangers supposed to have been caused by carbolized injections, said that at present surgeons inclined to use weaker solutions and avoid carbolic acid in washing out internal cavities, as the bladder; had used boracic acid as injection for bladder.

Dr. Doe illustrated danger of vaginal injections by case of multipara, whose labor had been normal. Vaginal injections, carbolized 1 to 120, were ordered thrice daily. On morning of sixth day during injection, patient said water had gone up to her stomach; complained of abdominal pain, which became intense and passed into semi-collapse. Three hours later was very pale, pulse thready and weak, abdomen distended, tympanitic, very sensitive to percussion. Pain more moderate. Stimulants, morphia, and hot fomentations being used, the pain, inflation, and soreness disappeared within twenty-four hours. No ill ensued.

Said also that in his experience vomiting had been more intractable and persistent in twin than in single pregnancies, and asked the experience of members present.

Dr. Minot's experience had been the contrary of that of Dr. Doe.

Dr. Green thought the nausea and vomiting common to early months of pregnancy were probably due to sinking of uterus in pelvic cavity, and that hence it was logical to expect greater intensity of these symptoms in twin pregnancy, uterus naturally being heavier.

NEW YORK COUNTY MEDICAL SOCIETY.

REGULAR MEETING, FEBRUARY 27, 1882.

DR. F. R. STURGIS, PRESIDENT, in the chair.

THE paper of the evening, entitled "The Permanent Removal of Superfluous Hair," was read by its author, GEORGE H. FOX, M.D.

The growth of hair upon the female face, of which the paper principally treated, was of frequent occurrence. There were hundreds of women who might, if they would, have a long beard; and the number of those who had some abnormal growth of hair upon the face was beyond computation. This abnormal growth of hair was not always a trifling matter, although usually treated as such by

the physician when consulted for its removal. It was often a great annoyance, affecting the patient's disposition and prospects in life, thus indirectly ruining her health, perhaps inducing melancholia. His method of operating for the removal of superfluous hairs was by electrolysis. The method was simple and could be employed by any physician, although dexterity could be acquired only by experience. To the negative cord of an ordinary galvanic battery a fine needle was attached for introduction into the hair-follicle. An ordinary fine cambric needle, which had been recommended, was too stiff, and answered the purpose not so well as the fine hair-like flexible steel guide which he used. The coarser and stiffer needle was more liable to produce inflammatory reaction and permanent traces after the operation. A high reclining chair, a good light, and a steady hand on the part of the operator were important. At present it was his advice not to remove the hair until after it was loosened by electrolysis. The number of hairs removed at a sitting should be only about thirty or fifty, although he had removed more than two hundred. If the operation were very skillfully performed, the little punctate marks which had sometimes been left, and could be seen on close observation, would be avoided. At first the patient usually was a little nervous and sensitive, but soon became accustomed to it, and did not complain of pain. The author read the history of a number of cases in which he removed from fifty to over five thousand hairs from the face of different women,—in some with the result of permanent removal, in others nearly so, the treatment not yet having been completed. When a second crop of fine soft hair came out at the seat of the original, it was removed in a similar manner, with permanent results.

It was a question as to how electricity destroyed the growth of the hair,—whether by thermic or by electro-chemical action. Dr. Heitzmann objected to the term electrolysis, claiming that the heat generated in the needle had the effect to destroy the tendency to growth of the hair. Dr. Fox did not think the amount of heat generated in the needle was sufficient to have this effect, and that the employment of the term electrolysis, because of the meaning it conveyed, was proper.

As to causes of excessive growth of the hair he was unable to determine. Some in whom it occurred were debilitated, others not; some nervous, others not; some dark-complexioned, others light; some young, others older; some married and mothers, others single. The idea that a beard in the female was associated with a masculine character was not founded on fact, for some of his patients were most feminine in disposition. That it was dependent upon the condition of the reproductive organs was, in his opinion, doubtful. The relation had not been proven, only

in exceptional instances. Its relation to derangement of the nervous system had been studied, but not sufficiently. Excessive growth of the hair, whether in the male or female, was an aberration of nutrition, and not a sign of excessive vitality. The Samsons of the present day were usually clean-limbed and of moderate hair-development.

DISCUSSION.

Dr. HEITZMANN referred to the introduction of depilation by electricity in this country, and agreed with Dr. Fox that to American dermatologists honor was due for material progress in this direction. Since Dr. Fox had shown him the details of the method, he had employed it a great deal, and with the most gratifying results. He had seen scars produced in but one instance, and then the disfigurement was observable only on close inspection. As Dr. Fox had stated, he believed in the thermic effects of the needle. As to what part any other influence might play, he could not tell.

Dr. GEORGE M. BEARD thought that the tendency to growth of the hair was destroyed chiefly by the chemical action from electricity, or by electrolysis, as was the case in the removal of tumors, although the slight amount of heat unavoidably generated might have some influence.

Dr. MORRILL could not speak from personal experience, but he could testify to the most brilliant and satisfactory results from the method obtained in the hands of Dr. Fox and others; and he believed the operation was destined to become a permanent one.

Dr. JACOBI.—In regard to pulling out the hair, perhaps the plan I have followed in a few instances is one that may prove just as successful, if not a little more so. I do not pull the hair out after the operation, but leave it there; and I have always found, on seeing the patient the next day, if the operation was successful, that the hair was gone. I have done so on purpose, in order to be able to apply the current again when the hair was not removed. When the effect is insufficient, it may be made permanent the next day. With regard to the hyperæmic condition at the insertion of the point, I have not seen that. As a rule, I find immediate anæmia. It is true that reaction sets in afterwards, and I then find some small local swellings.

Dr. W. G. WYLIE, as bearing upon the possible relation between the presence of hair upon the face of the female and the abnormal development of the genitals, said he had noticed a scrotal-like development of the labia in a few cases of bearded women.

It was further stated that successful results had been obtained in cases of scattering hairs by inserting a fine-pointed instrument dipped in some caustic—as the chloride of zinc—into the cavity made after extracting the hair.

The reports of committees were then read.

Dr. ABRAHAM JACOBI read two papers, the first with reference to the establishment of special hospitals for the treatment of scarlet fever and diphtheria within the limits of large cities. The special need of these in the city of New York was discussed quite lengthily by Dr. Woolsey Johnson, member of the Health Board. It was approved by the Society.

The second was with regard to danger to life and limb of factory-children, recommending a new law, embracing the following points: First. Children employed in factories should be under official supervision. In large cities boards of health could be intrusted with it. Second. Before being admitted to factory-work, a child of legal age ought to be examined physically by a medical man. Chlorotic, anæmic, scrofulous, crippled, and phthisical children, and those under normal size for their ages, should be excluded. Third. No night or Sunday work should be permitted. Fourth. Some branches of work should be forbidden entirely, such as mining, glass-works, rag-sorting, working in mercury, lead, arsenic, etc., and in match-factories, and those which are known to interfere with physical development, and others which are known to prove highly dangerous to childhood and adolescence. The earliest age at which the young ought to be admitted to manufacturing employment is fourteen.

This also was approved by the Society.

The Secretary read a communication received from the New York Medico-Chirurgical Society, containing resolutions endorsing the action of the Medical Society of the State of New York in its adoption of the revised system of medical ethics. It was accepted and ordered entered upon the minutes.

The Society then adjourned.

GLEANINGS FROM EXCHANGES.

TWO CASES OF AMPUTATION TREATED WITH EUCALYPTUS GLOBULUS.—Dr. Edward Lawrie, Professor of Surgery in the Lahore Medical School, reports (*Lancet*, January 7) two cases of amputation, one a Carden's amputation of the thigh, and the other, Syme's amputation of the ankle, in which he successfully employed eucalyptus globulus as an antiseptic, both healing without inflammation. His plan of carrying out Listerism with this antiseptic consists in preparing the gauze dressing at the time it is to be used, instead of beforehand. A stock mixture is kept of four to six parts of resin, four parts of spirit, and two parts of castor oil. Carbolic acid, or any other antiseptic, is added to this in the proportion required, and the gauze is impregnated with the mixture at the time of use. In the above instance, as he did not know the proportion of the antiseptic Mr. Lister would

employ, the gauze was simply wrung out of the resin mixture and then dipped in tincture of eucalyptus globulus, of which it took up a large quantity very readily. Evaporation was prevented by a mackintosh covering fixed with a splint and bandage; and the only after-treatment consisted in opening this once or twice and moistening the gauze with fresh tincture of eucalyptus. This plan is put forward as an adjunct to Mr. Lister's plan, and not as a rival, its object being to afford a ready method of preparation of the dressings, by which the surgeons may know that they are really antiseptic, the liability of the already-prepared dressings to deteriorate being great, especially in warm climates.

MISCELLANY.

DETECTION OF OLEOMARGARINE.—A process of detecting oleomargarine has been proposed by Messrs. Leune and Harburet. In a communication on this subject to the American Chemical Society by P. Casamajor, the specific gravity of butter is 0.926, which would remain in equilibrium in dilute alcohol of 53.7 per cent., at 15° C. Oleomargarine requiring alcohol of 59.2 per cent. to hold it suspended in the spherical state, the question of the possibility of distinguishing butter from oleomargarine becomes equivalent to the possibility of distinguishing between alcohol of different densities, which may be readily determined, the above difference being represented by 5.5 of Gay-Lussac's alcoholometer. Variations between the two densities are produced by commercial mixtures of oleomargarine and butter: so that several degrees of dilution between the two extremes given above are required in performing this test in the laboratory. As a rule, alcohol of 55 per cent. (and at 15° C.) should be commonly used; and any sample which will not sink to the bottom should be considered oleomargarine. The details of the manipulation are given in an abstract of this paper, published in the *Druggists' Circular and Chemical Gazette* for March, 1882. The proportions of butter and oleomargarine in a mixture may be also determined without the aid of an alcoholometer, by using the two solutions of 53.7 per cent. and 59.2 per cent. These may be placed in graduated glasses and poured cautiously into a third glass, until an alcohol of sufficient strength is obtained to keep a globule of the fat under examination at 15° C. The relative volumes of the two solutions used in making the mixture give the proportions of butter and oleomargarine.

INOCULATION AGAINST ANTHRAX.—Under the auspices of the Royal Hungarian Ministry of Agriculture, Dr. Aladár von Rózsahgyi has been testing Pasteur's inoculation process against anthrax, with the following results:

"The results of the experiments performed in Buda-Pesth may be thus summed up. Among the sheep, one died after the first inoculation with catarrhal pneumonia. After the second, one died with gastro-intestinal catarrh. The protective inoculation did not certainly cause any death from anthrax. After the control experiments one animal died of distoma hepaticum, a second of strongylus filaria. Consequently, among the inoculated animals, the virulent control inoculation caused no death which was certainly due to anthrax. There was no death among the uninoculated sheep during the time that the protective experiments were being carried out on the others. After the control inoculation eighty-eight per cent. died of anthrax within eight days, and one (four per cent.) died excessively anæmic. The cattle stood the protective inoculation without loss, and even without any illness. After the control infection there was only some fever of short duration amongst the uninoculated calves. The inoculated calves, as well as all the oxen, were unaffected by the infection."

AN OPEN FIELD FOR SPECIALISTS.—From the *Journal of Comparative Medicine* it is learned that the number of veterinary surgeons in the United States is less than nine hundred, not one-fourth of whom have received a medical degree. The vast moneyed interests at stake conditioned upon the health of various domestic animals are simply immense, and the necessity for more skilled practitioners is actual and urgent. While physicians are in many places poorly remunerated, because the supply is above the demand, competent, well-qualified men have every prospect of success in veterinary medicine, as there are not one-twelfth as many fairly good veterinarians as our commercial and agricultural interests require.

CONTAMINATION BY SEWAGE.—Oysters taken from the beds on the western shore of the Bay of Dublin have been found by Cameron (*Chemical News*, 44 to 52) to be contaminated with sewage. All oysters taken in proximity to large cities should therefore be looked on with suspicion. This circumstance has been repeatedly noticed in the Eastern States, and has already received some attention in the *Review* of February 20, 1880. Klendenin found that pike caught in the vicinity of a sewer contained trichinæ, obviously derived from the consumption of sewage.—*Chicago Medical Review*.

AN ANCIENT LIVER-PAD.—As a rage for foot-pads, kidney-pads, and the pad *genus omne* is now prevailing, a word as to the antiquity is now in order. It is believed that Prometheus was the first victim of a liver-pad. Hamlet probably referred to this incident when he remarked, "Now I could do it pad, while he is preying."

GRAY'S ANATOMY has been translated into the Chinese language.

DR. BOECHAT finds that recent soft goitres yield more rapidly under the external application of iodoform than by the use of either iodine or the iodide of potassium. He uses a glycerite of iodoform which is protected by a coating of collodion.

DR. ARMANGUE treats tonsillitis by hot local application, several times per day, of bicarbonate of soda. But we believe that aconite is a specific for tonsillitis, and should be loath to use anything else.—*Physician and Surgeon*.

M. CHARCOT has been appointed to the newly-created chair of Clinical Professor of Diseases of the Nervous System in the Faculty of Medicine, Paris.

PROF. ERNST HÆCKEL, the well-known German biologist, is engaged in a scientific mission in Ceylon, after completing which he will proceed to India.

THE death of Sir Robert Christison is announced. He was in his eighty-fifth year.

DR. THIN (*Practitioner*) uses a solution of boracic acid in glycerin made into a cream with wax and almond oil for fetid sweating of the feet.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM FEBRUARY-19 TO MARCH 4, 1882.

POPE, BENJ. F., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Dakota, and to report in person to the Surgeon-General for duty in his office. S. O. 42, A. G. O., February 21, 1882.

MOFFATT, PETER, CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Camp Spokane, W.T., to proceed to Fort Coeur d'Alene, Idaho, and relieve Assistant-Surgeon Spencer from duty at that post. S. O. 20, Department of the Columbia, February 11, 1882.

FINLEY, J. A., CAPTAIN AND ASSISTANT-SURGEON, FORT ADAMS, R.I.—Granted leave of absence for one month. S. O. 29, Department of the East, February 20, 1882.

COMEGYS, E. T., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort Stanton, N. Mex., relieving Assistant-Surgeon Newton. S. O. 40, Department of the Missouri, February 21, 1882.

SPENCER, WM. G., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for an extension of one month to Division Headquarters, and for an extension of four months to the Adjutant-General of the Army, S. O. 19, Department of the Columbia, February 10, 1882, and relieved from duty in Department of the Columbia, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 46, A. G. O., February 27, 1882.

POWELL, J. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON, FORT STOCKTON, TEXAS.—Granted leave of absence for one month. S. O. 19, Department of Texas, February 24, 1882.

NEWTON, R. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Comegys, to proceed to Fort Cummings, N. Mex., and report to the Commanding Officer for duty. S. O. 40, c. s., Department of the Missouri.

RAYMOND, H. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at the Presidio of San Francisco, and assigned to duty at Alcatraz Island, California. S. O. 28, Military Division of the Pacific and Department of California, February 15, 1882.

FRANTZ, JOHN H., MAJOR AND SURGEON.—Died at Baltimore, Md., on March 2, 1882.

PHILADELPHIA, MARCH 25, 1882.

ORIGINAL COMMUNICATIONS.

THE CLINICAL HISTORY OF CHANCRE AND CHANCROID.

*Report of Verbal Remarks made before the Philadelphia
County Medical Society, November 23, 1881,*

BY JOHN ASHHURST, JR., M.D.

IN discharging the duty assigned me of opening the discussion upon syphilis, I find that the subject which by especial appointment I am to consider is the clinical history of chancre and chancroid; and I feel that it is incumbent upon me, in the first place, to define what I mean by the terms employed. By *chancroid*, the soft chancre, non-infecting chancre, simple sore, or *chancrelle* of the French, I mean a local contagious ulcer, which results from contact with the secretion of a similar sore or ulcer, whether upon the same or another person. By chancre I mean, as do most authors in England and in this country, the initial lesion of syphilis. As I understand the question placed before me, the words "clinical history" imply that something more is expected and required of me than the mere setting forth of the points of difference between these two affections; and some reference to their clinical course and pathology will be necessary. Some of these more salient points I will now briefly mention.

Chancroid is a strictly local disease, derived, as I have said, from contact with the secretion of a similar sore, either on the same or another person. It is but fair that I should say that a different view is entertained upon this subject by several excellent writers. Thus, Dr. Wigglesworth, of Boston, believes that the chancroid has no specific character at all, but is simply the result of inoculation of ordinary pus, and thinks that he has proved this by inoculations upon his own person. Kaposi entertains similar opinions; and the late Dr. Bumstead, of New York, adopted the same view before his death. There is another view which must be referred to, advocated by Clerc, a French author, that chancroid is the result of the action of the syphilitic poison upon a person already affected by syphilis, or, in other words, that in a patient suffering from syphilis an in-

oculation with syphilitic virus will produce a chancroid.

For my own part, I cannot subscribe to either of these doctrines, but, as I have already said, believe on the one hand that the chancroid results exclusively from contagion from a similar sore, and, on the other hand, that it has no pathological relations with syphilis. It will be impossible to discuss this question without some reference to the past history of the two diseases.

Chancroid was well known to the ancients, references to local venereal ulcers being found both in Greek and Roman literature. Chancroid was probably as frequent among the ancients as it is in modern times. On the other hand, there is no reference found to syphilis, which apparently originated in the fifteenth century; whether arising among the troops in the French wars, or by importation from America, or otherwise, I will not now stop to consider; and, indeed, the most judicious syphilographers refuse to pronounce positively upon this point, the whole matter being still involved in doubt.

Chancroid may occur in any part of the body. This also has been denied. When I was a student it was ordinarily taught that chancre and chancroid were essentially the same; but the rare occurrence of chancroid in the face was a fact that it was very difficult to explain. It was not understood at that time that syphilis could be acquired by contact with secondary lesions, and it was supposed that the buccal or lingual chancre could only occur as the result of a form of sexual intercourse which I need not more particularly refer to. But, the chancroid being much more common than the chancre, why was it that those who indulged in this mode of intercourse acquired the comparatively rare instead of the more common disease? The explanation is now known to be that the buccal chancre results from contact with *secondary* syphilitic lesions, usually mucous patches, in the mouth of the infecting person, or even by mediate contagion,—through spoons or utensils of various kinds,—and thus may be met with in perfectly pure-minded and innocent persons. Though, however, very rare, the cephalic chancroid does occur; and there are at least five cases on record in which this disease has been acquired by the ordinary

method of contagion (Puche, Roseta, Diday, Labarthe, R. W. Taylor). But, though this variety of venereal sore may appear in any portion of the body, it is more particularly seen about the preputial fold, corona glandis, frænum, and meatus urethræ in man, and in woman most commonly on the nymphæ and os uteri.

The chancroid has no true period of incubation. There is, of course, a variable time required for the poison to penetrate the skin; but, when artificially inoculated, the chancroid makes its appearance within a few hours. Acquired by the ordinary methods of contagion, its appearance is more rapid when there is a crack or fissure than when the skin is unbroken; and it occurs more quickly when the poison is deposited upon a soft, thin skin, passing through by maceration and absorption, or when a mucous membrane is involved, than when contagion is effected through a comparatively hard or thick skin. When first observed, the chancroid appears as an elevated pimple or papule with a red areola. It generally makes its appearance on the second or third day after impure intercourse. Subsequently it becomes vesicular and pustular, or it may form a scab and ulceration occur underneath. The stage of ulceration is reached in from four to six days after exposure. If the matter of the chancroid be deposited in a fissure or on an abraded surface, its development, as already intimated, may be much earlier; it may then present the ulcerative stage first; but usually from four to six days elapse before the disease is fully developed; and this period is sometimes much longer. As a general rule, it may be said that a venereal sore which appears within a week or ten days is probably chancroidal. I say "probably," because the most skilful observers may not always be able to decide this question in exceptional cases. The ulcer varies in size from a line to half an inch, or may even appear larger from the coalescence of several sores; but it is rare to have a single chancroid larger than half an inch. It is not adherent to the neighboring tissues, and there is no surrounding induration. The sore has a peculiar punched-out appearance, with overhanging edges, very different from the sloping edge which is characteristic of true chancre. The bottom of the ulcer is covered with an adherent grayish slough. This, then, would be the ordinary appearance of a chancroid,—first

papular, then pustular, and finally ulcerating. The primary areola does not continue throughout the entire course of the chancroid. The secretion is *auto-inoculable*,—by which I mean that the pus is inoculable upon the person who bears the original sore. Any venereal sore is inoculable upon a fresh subject; but this only has the character of auto-inoculability. The multiplicity of chancroid is due to this cause. The original sore may be upon the prepuce, but other sores may appear on the glans, upon the thighs, or wherever the pus may flow. A very large number of chancroids are formed in this way, especially in females, on the perineum, on the buttocks, around the anus, etc. The chancroid, therefore, is usually multiple, not necessarily from the first, but as a consequence of this property of auto-inoculability. This question has been investigated by Fournier, who found eighty per cent. multiple, about twenty per cent., or one-fifth, single. There may be a certain amount of surrounding hardness, caused by inflammation or by irritating applications; but this is to be distinguished from the induration of chancre. It fades away, as it were, gradually into the surrounding structures, and this makes the chancroid in a measure adherent to the neighboring tissues. The sensation communicated to the finger is very different from the distinct foreign-body-like feel of the true chancre.

Chancroid is very commonly accompanied by *bubo*,—not always a *chancroidal* bubo, but often one due to simple irritation,—an *inflammatory* bubo. In some cases, however, there is a true chancroidal bubo, due to direct absorption of the virus by the lymphatic channels and to its introduction into the interior of the lymphatic glands. The chancroidal bubo has an almost irresistible tendency to suppuration. The inflammatory bubo may be made to disappear by resolution; but I doubt if resolution is ever effected in a true chancroidal bubo. The suppuration is at first, however, rather *periglandular* than glandular. Not infrequently, when the bubo has been opened, an enlarged gland may be found protruding from the wound. In such cases much good can be done by enucleating the diseased gland and thus preventing the spread of the poison in the neighboring tissues. But if the gland is allowed to become disintegrated in the wound, it will inoculate the

entire surface, and then we may have the whole ulcer converted into a huge chancroid, the treatment of which is slow and tedious alike to physician and patient.

The bubo, in cases of chancroid, generally appears from the fourth to the sixth week, but may not occur until a much later period. M. Puche has reported a case of chancroidal bubo occurring three years after inoculation. Chancroidal buboes are usually single; that is to say, a single gland is affected at a time; though, if left to itself, the original gland will suppurate and the poison then extend to other glands; but at first the disease is restricted to a single gland, and, moreover, it is confined to one side, usually corresponding to the side on which the sore exists. Sometimes, however, it is upon the opposite side, due to the interlacement of lymphatics upon the dorsum of the penis, or, in cases of multiple chancroid, both groins may be involved. The peculiarities of the chancroidal bubo may then be summed up as follows: it is (1) unilateral, (2) monoganglionic, and (3) it generally tends to supuration.

There are certain complications which may be met with in chancroid, some not peculiar to this disease, but occurring also in simple inflammatory conditions. The first which I shall mention is the presence of *warts*, or *vegetations*. They are not necessarily of venereal origin, but may be due simply to want of cleanliness. They are, however, contagious, being conveyed just as warts on the hand are sometimes communicated, by contact. They are usually seen on mucous surfaces, or where the skin is kept moist, as on the glans in cases of elongated prepuce. Other complications are phimosis and paraphimosis, or the chancroid may coexist with other forms of venereal disease. In some examples of balanitis it is difficult to decide whether the case is one of simple "external gonorrhœa," with consecutive ulceration, or whether the ulcerations are really chancroidal. True chancre may also coexist with chancroid, the diseases being acquired either by the same or by consecutive exposures.

Then there are the *phagedænic* and *serpiginous* forms of chancroid. Phagedæna, which may cause considerable loss of tissue, is often due to the previous existence of syphilis or to other causes of constitutional depression. It has also been attributed to

the abuse of mercury. The appearance of the slough in cases of phagedænic chancroid is well compared by Dr. Barton, an Irish surgeon, to "melted tallow." Phagedæna may also attack a chancroidal bubo, or there may be a serpiginous (or creeping) chancroid or a serpiginous bubo. Some years since, I saw a case of serpiginous bubo which had lasted for several years, and which proved utterly rebellious to treatment. There are even cases on record in which this form of the disease has lasted for ten years.

This may terminate the clinical history of *chancroid*. Let us now turn to that of the *chancre*. In the first place, it may be noticed that a chancre may be derived from several sources. It may be derived from a similar sore, and for many years it was believed that this was its only source; but it is now known that it may also be derived from secondary lesions. Another source is syphilitic blood. This source of contagion is seen in cases of vaccino-syphilis, which are due to the admixture of blood from a syphilitic person with the vaccine virus, and are more frequent where arm-to-arm vaccination is practised than where the scab is used, as is more commonly done in this country. Another way in which syphilis may be communicated by the blood is when a man has intercourse with a syphilitic woman during her menstrual period. This point has been particularly insisted upon by Dr. Hyde, of Chicago. Chancre may then be derived from these three sources,—(1) another chancre, (2) a mucous patch or other secondary lesion, and (3) the blood. I am not disposed to believe that syphilis can be conveyed through any of the natural secretions. Formerly it was supposed that it could be conveyed by secretions, or even through the air. Some syphilographers believe that syphilis may be conveyed by the milk, saliva, and semen. Undoubtedly many cases of chancre come from fluids of which the saliva forms a part; but the real source of infection is the discharge from mucous patches in the mouth. Similarly, syphilis may be apparently communicated through the milk. Many an infant is inoculated by a syphilitic nurse; but the source of contagion is not the milk, but a mucous patch on the nurse's breast, or syphilitic blood from a fissured nipple. It is said, again, that the seminal fluid must be capable of conveying syphilis,

because a man may have a syphilitic child when the mother has no appearance of syphilis. I believe that in this case the mother has really become syphilitic, although she may show no outward manifestations of the disease. It was long ago pointed out by an eminent Irish surgeon, Dr. Colles, that while a stranger could not, yet a mother could, nurse a child with syphilitic sores upon its mouth, without herself getting syphilis. The only explanation of this is that the mother is herself already syphilitic. It is quite possible for a woman to have a mild form of syphilis, which is not recognized, and which yet serves to protect from further infection. We constantly see the same thing in the case of scarlet fever and other exanthemata. In regard to the contagiousness of semen, M. Mireur, a French surgeon, has inoculated semen free from blood and pus, and found no syphilis produced. Of course this is negative evidence, but, as far as it goes, it is valuable. Similarly negative results were obtained from the inoculation of milk, in the hands of Pardova, an Italian surgeon.

Syphilis also is conveyed by *mediate* contagion, as by glass-blowers' tubes being passed from hand to hand: one man having a syphilitic mouth, a number are infected. In the same way a syphilitic cook, tasting the food which she is preparing from time to time with a spoon, may convey the poison. Syphilis has also been inoculated by tattooing, as in cases reported by M. Josias, and by the late Dr. Maury and Dr. Dulles, of this city.

Chancre has a decided period of incubation. Nothing is seen for a number of days after inoculation: usually from ten to twenty days, the period of inoculation may be six or seven weeks. It is safe to say, in general terms, that if a venereal sore appears before ten days have elapsed, it is probably (not certainly) a chancroid; if after ten days, it is probably (not certainly) a chancre. Cases have, however, been reported by Dr. Hammond and Dr. Taylor in which the chancre has appeared within two or three days after exposure. Dr. Otis, of New York, has explained this by variations in the locality of the inoculation. If this is near a lymph-channel, the poison is more rapidly absorbed than under opposite circumstances. This period of incubation marks the chancre as being the first symptom of a constitutional affec-

tion. It differs in this respect from the chancroid.

The first lesion of syphilis acquired in the ordinary way is invariably a chancre. In inherited syphilis, however, there is no primary stage, but secondary lesions are the first to appear.

Concerning the form of chancres, a large proportion of them occur as *superficial erosions*, appearing after an incubation of from three to five weeks, or even longer. There is first a reddish-brown papule, with an ulcerated spot or scab in the centre. The shape of the chancre is circular or elliptical, and its edges are sloping, but less so than in the Hunterian chancre. The surface of the ulcer is red, and there is little or no pus, except as the effect of irritating applications or want of cleanliness. Anything that causes irritation may increase suppuration. There is beneath the sore a peculiar *induration*,—another point of difference between the chancre and chancroid. In this superficial form we have a *parchment-like* induration, which may last only for a short time, and is very slight in chancres on mucous membrane, and which may therefore entirely escape observation, especially in females.

The *Hunterian chancre* presents some points of difference from that already described. As a rule, the incubation is shorter,—from ten to fourteen days. Its appearance is that of a deep excavated ulcer, with sloping edges and marked "split-pea" induration. This term was used by Benjamin Bell to indicate the size and not the character of the induration, but it applies very well to both. This induration usually makes its appearance a little after the chancre, but sometimes before. In the large majority of cases it occurs, according to Sigmund, from the ninth to the fourteenth day after exposure.

The chancre differs from the chancroid in usually being *solitary*, though we may have several chancres, from a simultaneous multiple inoculation, just as in vaccination; but, as a rule, chancre is solitary, chancroid is multiple. The chancre is not of itself auto-inoculable; but when the chancre is irritated in any way, a suppurating auto-inoculable sore may be produced. Experiments have been made, as in the process of "syphilization," which prove that the inoculation of chancre upon a syphilitic person may produce an ulcer often indistinguishable from chancroid;

and other experiments by Pick, Morgan, Krause, and Lee show that precisely similar sores may be produced by inoculation of syphilitic subjects with ordinary pus. But it is by no means shown that these sores are really chancroids; and, however closely they may resemble them, their course and natural history are quite different.

The chancre, unless attacked by phagedæna, usually heals of itself in the course of a few weeks or months. It is sometimes converted into a mucous patch by an interesting process, which, however, it would be beyond the limits of the subject assigned me to consider.

The bubo of chancre is a symptom of the first stage of syphilis. It is bilateral and polyganglionic. Very often it happens that one gland is larger than the rest, and we then have what the French call a "pléiade ganglionnaire." These buboes do not tend to suppurate, unless irritated. They undoubtedly do suppurate; but this complication is due either to a scrofulous taint or to extraneous irritation. It is an accident, and does not belong to the disease as it does to chancroid. The duration of a syphilitic bubo may be very protracted: it may last a few months or it may last many years. It has been maintained by Mr. Venning that as long as induration remains in the inguinal glands the patient is syphilized, and cannot again contract the disease. This leads me to say, in conclusion, in regard to second attacks of chancre and chancroid, that, while a man may have any number of attacks of chancroid, most men can have only one attack of syphilis, a second being as rare as a second attack of smallpox. There is a mistake often made in this matter which deserves correction. Fournier has described a condition which he calls an "indurated pseudo-chancere," which is really a late constitutional lesion. Just as we have the locality of a syphilitic lesion determined by any injury,—a broken leg, for instance,—so, from some irritation, there may be re-induration in the seat of an old chancre; and this may be readily mistaken for the result of a fresh infection. Again, a gumma, developed on the site of an old chancre, may be readily mistaken for a new one. But a man may pass through all the stages of the disease, and, all symptoms having disappeared, he may get a fresh attack.

I have in this brief outline endeavored

to point out not only the diagnostic points between chancre and chancroid, by which they can in the vast majority of cases be distinguished, but have also endeavored to trace their clinical history so as to show that they pursue an entirely different course.

THE RELATION OF SYPHILIS TO SCROFULA.

Read before the Philadelphia County Medical Society, November 23, 1881,

BY JOHN B. ROBERTS, M.D.,

Lecturer on Anatomy and on Operative Surgery in the Philadelphia School of Anatomy; one of the Vice-Presidents of the Society.

IT is my intention this evening to discuss the evidence for and against the assumption that syphilis is the progenitor of scrofula. This I believe to have been the wish of the directors when assigning me the subject that serves as a title to my remarks.

Before attempting to depict the relationship between these diseases, it is necessary that I accurately define the terms. By syphilis I mean the constitutional affection due to inoculation with the virus of hard chancre, excluding the local disease called chancroid, or soft chancre. I of course make no allusion to gonorrhœa, which is not syphilis, and, in my opinion, not even specific.

The term scrofula is used to designate that constitutional condition that tends to the deposition of gray tubercles. The liability to such deposition may exist without any deposit of tubercle having occurred: therefore a man may be scrofulous without being actually tuberculous.

The pathological lesions due to constitutional syphilis closely resemble the effects of chronic inflammation, and may be grouped under these heads: 1, fibroid degenerations; 2, gummy tumors; 3, changes in the arterial walls. The fibrous indurations are found in small areas, surrounded by normal tissue, and occur in periosteum, sheaths of nerves, of organs, and in muscles. Gummy tumors are firm yellowish masses, and consist of granular, fatty, and other material due to degenerated cell-products, surrounded by a fibrous zone, which in turn is encircled by a cellular and vascular area, intimately blended with the adjacent tissues. *They often become caseous on account of progressive degeneration*

of their interior. Gummy tumors are the most characteristic formations of syphilis, and are found in the cellular tissue, muscles, fasciæ, bones, and internal organs. Syphilitic changes in arterial walls cause diminution of calibre, leading to interference with circulation; and thus possibly have a causative relation to cheesy degeneration.

Scrofula, as previously stated, is the diathesis which tends to the production of minute inflammatory growths called gray or miliary tubercles. These tubercles, according to present pathological views, are the result of infection from an inflammatory focus, which usually, though not necessarily, has undergone caseous degeneration. The infective process in the great majority of instances, however, *does* occur from some such caseous centre. It must be remembered, also, that gray tubercle itself may undergo cheesy degeneration, as indeed may any structure with little vascularity and abundance of cells. Hence cheesy tubercles may act as secondary caseous centres of infection.

As tubercle results from inflammatory products inducing infection, those are most liable to become tuberculous who are prone to inflammatory affections characterized by chronicity and by products tending to caseation. They would therefore be called, according to my use of the word, scrofulous. If the tendency to such inflammations is inherited, the case is one of hereditary scrofula, which is the usual form; but a chronic inflammation may cause infection and tubercular deposition in one who has not previously shown any caseous degenerative changes. Thus arises acquired scrofula.

It has been asserted, and by no one more forcibly than by one of the ex-Presidents of this Society, that syphilis is the usual, if indeed not the invariable, cause of scrofula; which, according to this view, is merely hereditary syphilis presenting modifications due to remoteness of origin.

I shall at first present the best evidence that can be offered in support of this doctrine, then state the most cogent objections thereto, and finally give an opinion founded on what I have endeavored to make an unprejudiced analysis of the evidence presented.

Let us study the affirmative side of the question.

I. Syphilis and scrofula undoubtedly show a tendency to affect similar structures, as is proved by the many diseases, formerly classified as scrofulous, now known and admitted to be inherited syphilis. In fact, those who hold that the two affections are distinct are obliged to admit that it is sometimes impossible to determine, from symptoms, or even from the antecedent history obtainable, which disease is responsible for the lesions exhibited.

II. Scrofula has been, and is, most common at times of life, in historic periods, and in countries in which syphilis is known to have been and to be prevalent and virulent. Again, scrofulous diseases are less prominent and more benign at the present day than formerly, when acquired syphilis was more destructive, because less judiciously treated.

III. It is so well known that syphilitic parents have, as a rule, syphilitic children, that an exception gives rise to scientific comment. Scrofula is usually an inherited condition, and could readily therefore be due to such a wide-spread and prolific parentage as syphilis.

IV. Scrofulous affections are found in the highest stations of life,—a fact which would be wellnigh inexplicable if scrofula were the resultant of exposure, insufficient food, filth, and bad air. If it be a grandchild of syphilis, however, its presence in every household can be as general as the immorality that gives birth to its ancestor.

V. Cases occur similar to that reported by Lugol, who refers to a family of two healthy children, the father of whom subsequently contracted syphilis and inoculated his wife. A third child was born, who, after exhibiting many scrofulous symptoms, died at eighteen years, though the elder brother and sister presented no such conditions of ill health.

VI. Acquired syphilis has been accused of awakening scrofulous manifestations in those, predisposed to scrofula, in whom no symptoms have occurred for years. This suggests a relationship between the affections which is very intelligible if scrofula be viewed as a remotely inherited syphilis.

VII. Scrofula is the condition furnishing deposits of tubercle, which are the result of infection arising especially from cheesy accumulations. Syphilis is an incessant instigator of inflammations and of gummy tumors which frequently undergo caseous degeneration. Hence pathology points

at syphilis as an agent well calculated to give birth to the scrofulous diathesis.

VIII. The most effectual remedies in the treatment of syphilis, whether acquired or inherited, are mercurials and preparations containing iodine. These so-called specifics in the management of syphilis are agents of greatest benefit in alleviating scrofulous manifestations.

The arguments of those denying the syphilitic parentage of scrofula may be summarized as follows:

I. Scrofula is not inoculable, as are the primary, the secondary, and sometimes the inherited lesions of syphilis.

II. The successive steps between primary syphilis in the progenitor and scrofulous diseases in the posterity have not been traced by any scientific investigators; who quote only isolated cases of apparent relationship.

III. Scrofulous affections are found in patients who have presented no such manifestations in early life (when inherited syphilis is especially noticeable), who have had neither scrofulous nor syphilitic parentage, and who have never acquired primary syphilis. Moreover, phthisis, which is a lesion of scrofula, is found very frequently in animals not known to have syphilis.

IV. Scrofula is not considered a factor in the causation of syphilis, as might be expected if there was a mutual relationship between them.

V. Scrofula is believed by some to have existed in Europe before the advent of syphilis, and according to certain writers is now prevalent in countries where syphilis is rare.

VI. Syphilis yields more quickly and completely to treatment than scrofula, though the same or similar remedies may be available in both diseases.

Such are the arguments of the advocates and of the opponents of the syphilitic origin of scrofula. The affirmative side seems to me to present more points that are generalizations, and, at the same time, to offer greater difficulties for its opponents to meet. The negative arguments are weakened by the facts,—1, that most animal poisons become weakened when passed through several subjects, and that there is evidence pointing to the possibility of scrofulous disease being transferred from one person to another; 2, that the links of the chain must be imperfect when the period

of hereditation and differentiation requires probably several generations; 3, that it is admitted even by the affirmative side that scrofula may arise from ordinary inflammations, and hence may occur in animals as well as in a non-syphilized man; 4, that many causes in nature cannot assume the rôle of effects; 5, that statistical evidence is proverbially subject to errors; and, 6, that the relative time of therapeutic influences depends more on the tissue-changes produced than on the etiological agency.

A survey of the field has led me to the conclusion that vast numbers of cases of so-called scrofulous disease are the direct result of inherited syphilis, but that, until pathology ascribes the tuberculous diathesis to a *special* and not a mere inflammatory infection, it is illogical to deny that acquired, and therefore also hereditary, scrofula may, and at times does, arise from absolutely non-syphilitic precedents.

While admitting the last clause of the above paragraph, however, I assert that the thought and investigation resulting from my appointment to speak to-night upon the relation of syphilis to scrofula have converted me from an indifferent believer, and perhaps doubter, in this relationship, to an earnest advocate of the doctrine that syphilis is undoubtedly the cause of nearly all cases of *hereditary* scrofula.

1118 ARCH STREET, PHILADELPHIA.

AN ANALYSIS OF SEVEN HUNDRED AND FIFTEEN CONSECUTIVE CASES OF SKIN DISEASES.

BY H. W. STELWAGON, M.D.

DURING the year 1881, seven hundred and fifteen cases of skin diseases were recorded at the clinics of the Philadelphia Dispensary for Skin Diseases and the special service of the Northern Dispensary. In this number were noted fifty diseases. Several of these, however, might be classed under one affection, but, for the purpose of simplification, they are given individual mention.

The table merely shows the number of cases of each disease recorded, together with the percentages. As regards age and sex, the number of cases is scarcely great enough to render an analysis of such points of any particular value. For comparison,

the cases (653) of the preceding year* are placed in an adjacent column: so that the whole table really represents one thousand three hundred and sixty-eight cases observed.

Diseases.	1881.		1880.	
	Number of cases.	Per cent.	Number of cases.	Per cent.
Eczema.....	268	37.5	195	29.9
Syphiloderma.....	49	6.9	68	10.4
Acne.....	35	4.9	20	3.1
Pruritus cutanea.....	25	3.5	24	3.7
Phtheiriasis.....	25	3.5	30	4.6
Urticaria.....	24	3.4	40	6.1
Furunculus.....	24	3.4	14	2.1
Dermatitis.....	19	2.7	26	4
Seborrhoea.....	19	2.7	10	1.5
Erythema multiforme.....	19	2.7	13	2
Impetigo contagiosa.....	19	2.7	21	3.2
Psoriasis.....	16	2.2	24	3.7
Acne rosacea.....	15	2.1	10	1.5
Scabies.....	14	2	11	1.7
Ulcus.....	14	2	22	3.4
Herpes facialis.....	10	1.4	3	0.46
Miliaria.....	9	1.3	10	1.5
Varicella.....	9	1.3	...	...
Abscess.....	9	1.3	...	...
Purpura.....	8	1.1	4	0.61
Tinea circinata.....	7	1	10	1.5
Tinea versicolor.....	7	1	9	1.4
Herpes zoster.....	7	1	16	2.4
Paronychia.....	5	0.7	...	...
Erythema.....	5	0.7	3	0.46
Vitiligo.....	4	0.56	3	0.46
Ecthyma.....	4	0.56	2	0.31
Impetigo.....	4	0.56	12	1.8
Tinea sycosis.....	3	0.42	1	0.15
Scrofuloderma.....	3	0.42	2	0.31
Comedo.....	3	0.42	2	0.31
Alopecia.....	3	0.42	1	0.15
Chloasma.....	3	0.42	...	...
Rötheln.....	3	0.42	...	...
Erysipelas.....	3	0.42	...	...
Tinea tonsurans.....	3	0.42	4	0.61
Sycosis, n. p.....	2	0.28	10	1.5
Verruca.....	2	0.28	7	1.1
Lupus vulgaris.....	2	0.28	1	0.15
Variola.....	2	0.28	...	...
Tinea favosa.....	1	0.14	4	0.61
Hyperidrosis.....	1	0.14	4	0.61
Lichen planus.....	1	0.14	2	0.31
Epithelioma.....	1	0.14	2	0.31
Dysidrosis.....	1	0.14	1	0.15
Lupus erythematosus.....	1	0.14	1	0.15
Milium.....	1	0.14	1	0.15
Telangiectasis.....	1	0.14	...	...
Pityriasis maculata.....	1	0.14	...	...
Keratosi pilaris.....	1	0.14	1	0.15
Total.....	715			
Herpes iris.....			2	0.31
Atrophy of nails.....			2	0.31
Hypertrophy of nails.....			1	0.15
Morphoea.....			1	0.15
Alopecia areata.....			1	0.15
Xanthoma.....			1	0.15
Steatoma.....			1	0.15

Taking this table as the basis of the report, and recapitulating, so to speak, with the addition of a few explanatory notes, and of brief mention of interesting points, the following remarks are evolved:

* For a detailed report of the cases for 1880, see *Medical and Surgical Reporter* for April 23, 1881.

Under the heading *eczema* are found two hundred and sixty-eight cases,—more than thirty-seven per cent. This is higher by seven and one-half per cent. than shown in the analysis of cases for 1880. Examples of the acute disease were rare, the vast majority of them being of several months' standing, and some of years' duration. In about half the number the disease was seated exclusively on exposed parts. These parts also were frequently implicated in cases in which the disease was more general. As heretofore, old *eczema rubrum* of the legs was largely represented. Males and females were affected about alike. One-third of the patients were under the age of ten years, thirty under one year. The youngest patient was aged eighteen days, the oldest past eighty years. It was by far more frequently observed in those of a light complexion. The general health of patients seemed fair; the almost constant coexistence of digestive disturbance, however, was noticeable.

The *syphilodermata* numbered forty-nine cases, or seven per cent.,—a proportion of three and one-half per cent. less than the last year.

Most of these cases—at least, a few more than half—were illustrative of the earlier secondary eruptions; the remaining cases, of the later localized eruptions. Seventeen of the cases of the later forms showed the tubercular eruption. This was localized in character, and had the peculiar circinate and segmentary arrangement of the tubercles. In some of these there was ulceration, but with the greater number this feature was absent. Several well-marked cases of the papulo-squamous syphiloderma were observed. In one of these iritis supervened. This was the only case in which this complication was noted. The general pustular eruption was seen in but two instances.

In a large proportion of the patients, especially in those suffering with the early eruption, there was marked glandular enlargement; but in many of the later eruptions this involvement of the lymphatic glands was not so prominent. Also in the early cases mucous patches were almost invariably present.

There were four cases of hereditary syphilis noted. In three of these the eruption made its appearance at the beginning of the third month, in two in the maculopapular form, and in the third in the papular. These three patients were apparently

healthy when born, and continued so for a month. In fact, their condition, when first brought to the clinic, was not especially bad; and under appropriate treatment the cases progressed favorably. The fourth case was in an infant aged one month. The eruption was papulo-squamous, but sparse, and its squamous character only slightly marked. The child was puny and unhealthy when born, suffering with a severe coryza. When seen, the syphilitic cachexia was marked. The case remained under notice one week, and then failed to return. In this time it grew rapidly worse, and doubtless subsequently died.

In two of the four cases mucous patches were present, and in one—the patient that disappeared—there was a suppurative cervical adenitis.

Of the cases of *acne* coming under treatment, the majority were females, and the whole number much greater than the year before. The affection was seen most frequently in those between the ages of sixteen and twenty-five. One case was observed in a girl of twelve, and one in a woman past forty.

The patients were, as a rule, in good condition, but generally complained of weak digestive power; and in many there was an expressed aversion to fat and fatty foods.

Pruritus cutanea was recorded in twenty-five instances,—about the same percentage as in the preceding year. In two cases the affection was confined to parts about the genitals. The disease was in almost every instance in persons past the age of forty, and in a large number past sixty.

In one case the itching was so intense that the skin had been actually lacerated. In none of these cases was Bright's disease or diabetes present.

Phtheiriasis was credited with twenty-five cases, in the majority of which the body was the part infested.

Urticaria came under observation in the proportion of three and four-tenths per cent., against six per cent. the previous year. In several instances the disease had persisted for months, scarcely a day passing that the skin was entirely free. A few of the severe cases seemed traceable to malarial causes, and the supposition was subsequently corroborated by the effect of treatment. In most of the cases the affection unquestionably depended upon a dyspeptic condition, but in some no such cause was discoverable, and the eruption

seemed dependent on some obscure nervous disturbance. This was especially true of some of the chronic cases. At any rate, the disease in such cases was much more amenable to nervines than to any other class of remedies.

Furunculus occurred in the same number of cases as urticaria. In more than half the number there were present but a few furunculi, and after disappearing there was no relapse; while in others successive crops occurred, and only yielded after prolonged treatment.

If judged from the stand-point of dispensary practice, the disease is one of depressed vitality.

Dermatitis, seborrhæa, erythema multiforme, and impetigo contagiosa were observed in the same number of instances,—each nineteen. The cases of *erythema multiforme*, with but few exceptions, were recorded during spring and autumn. The papular form of the eruption predominated, and in a number of cases was confined to the hands and forearms, the dorsal surfaces preferably. The general health was undisturbed. In a few instances the eruption was more or less general, and markedly multiform in character, and accompanied with transient swelling and pain about the wrists and knee-joints. The average duration of the affection was about seventeen days. Four or five cases showed a succession of outbreaks.

Impetigo contagiosa, as remarked, was observed in nineteen instances,—two less than the twelvemonth previous.

This curious affection has an undoubtedly eczematous aspect, but is separated from it by its course and by the fact of its being produced by a contagious element; also, as a rule, by the absence of itching. The discrete vesicular beginning,—becoming at places confluent,—the rapid drying-up of the vesicular wall and contents, the thin wafer-like yellowish crust, with the peculiar "stuck-on" appearance, give the disease an undoubted individuality. The affection was in a few patients confined to the face, but generally there were in addition a few vesicles or patches on the hands; and in many cases the eruption appeared on the arms and legs. The disease generally disappeared after a few weeks, sometimes sooner; but in a small proportion of the cases the affection repeated itself, and occasionally a few flat pea-sized vesicles would apparently disappear, to be repro-

duced, and so on for several weeks. The contagious character, however, was always retained. The patients, with two exceptions, were all under the age of ten years,—many of them young children. The two exceptions were adults, the disease having been contracted from their children. In these the affection was limited to a few small abortive patches.

Psoriasis came under notice in but sixteen instances, a percentage of two and two-tenths,—one and one-half per cent. less than the year before. Two cases of the acute disease were noted. The youngest patient was eight years old, the oldest past fifty. In one instance the eruption was almost universal,—scarcely any part free. The skin in many places was one continuous sheet of eruption, and about the joints cracked and fissured. The patient was an intelligent German, and had suffered from the disease for years. His knowledge of the treatment of the disease was comprehensive, as he had been under treatment at many different times and at different places. The sole reason for which he sought medical aid was in order to obtain a prescription for an ointment of chrysophanic acid, the only remedy from which he had ever obtained relief. This would cause a disappearance of the eruption at the points of application, to return, however, after an interval of a few weeks.

In two cases the disease was confined to the scalp, the eruption at parts extending just beyond the border of the hair.

Acne rosacea numbered fifteen cases. Severe grades of the disease, in which hypertrophy is a marked feature, were not encountered. For the most part the affection was observed in what might be termed the intermediate or second stage,—that is, where acne papules and pustules are present and the capillaries slightly enlarged. In most of the cases the affection was confessedly due to intemperate habits, but in a few cases no such cause had acted, and it seemed dependent upon disorder of the digestive organs: at least, upon proper regulation of the intestinal functions and strengthening of the digestive power, the disease underwent rapid improvement.

Fourteen cases of *scabies* were treated. The disease was mostly seen in persons who had just crossed the ocean, and had evidently been contracted on shipboard. The few children in whom the disease was seen had just emerged from a "home," and by

one of these cases was conveyed to a younger member of the family, an infant six weeks old. The eruption in this case was principally about the face and hands. A few cuniculi were discovered on the hands.

Purpura was noted in eight cases; but, as in all the disease was of a simple character, no special interest is attached to them. In one instance only were rheumatic symptoms present, and in this the pains subsided shortly after the outbreak and gave no further cause of complaint. The parts affected were in five cases the legs alone, in the remaining three the arms and legs.

The number of cases of *herpes zoster* observed was eight, against sixteen of the preceding year. In two cases—in one of which the eruption was along the supra-orbital nerve—the pain was excessive, and required large doses of morphia for relief.

For the sake of convenience, the diseases coming under the class of *tinea* will be briefly considered together.

There were in all twenty cases produced by the vegetable parasites. Of these, thirteen came under the head of *tinea trichophytina*. In seven of these the disease was seated upon various parts of the body, exclusive of the scalp (*tinea circinata*), in three cases upon the scalp (*tinea tonsurans*), and in the remaining three upon the region of the beard (*tinea sycosis*). Four of these cases were furnished by one family, the child showing ringworm of the body and of the scalp, the mother ringworm of the body, and the father *tinea sycosis*.

Two of the cases of *tinea sycosis* were typical. The chin and parts immediately beneath were the seat of inflammatory lumpy nodules. The hair showed a thorough penetration of the fungus.

Seven cases of *tinea versicolor* are included in the group. In all the disease was confined to the upper part of the breast and back, and in several had persisted for years. The only uneasiness caused by its presence, as stated by the patients, was a feeling of itchiness of the parts when warm.

The remaining case of this group is one of *tinea favosa*. The subject was a youth twenty years of age; the site of the disease, the scalp. The affection had begun when the patient was five years old, and, although under medical care spasmodically, had never been thoroughly treated. The original features of the disease were necessa-

rily absent. The parts presented numerous atrophic areas, devoid of hair and slightly depressed, giving the scalp an appearance much resembling that occasionally seen as the result of syphilitic ulceration. The hair around about was dry, lustreless, and brittle, and that immediately surrounding the patches showed a meagre quantity of the fungus. The patient was somewhat discouraged by the prognosis concerning the restoration of the hair, and failed to reappear.

The remaining affections are either so unimportant or so few in number as to require no place in this brief analytical report except that given them in the table. Some of the remaining cases,—those of the rarer diseases,—it is true, were of considerable interest, but such will be otherwise communicated.

TYPHOID FEVER AT THREE YEARS OF AGE.

BY CHARLES W. DULLES, M.D.,

Surgical Registrar to the Hospital of the University of Pennsylvania.

ON the night of February 24 I was called to see E. C., a little boy 3 years old, who had been taken ill a few days before, with cough, fever, and some constipation. On the day in which I saw him he had been carried to a dispensary, and received from one doctor a prescription of bromide of potash, and from another one of calomel, soda, and sugar, for his bowels, and a sedative cough-mixture containing paragoric. At the same time his parents were advised that he was too ill to be carried about, and should receive medical attendance at his home.

When I first saw him, he had a high fever, a troublesome cough, pupils widely dilated, and some delirium. He fretted and cried out, and picked persistently at his bedclothes.

On examination, I found evidences of bronchitis, and some apparent congestion of the upper part of both lungs. I found also a tongue with a heavy, gray, offensive coat. Concluding that it was high time his bowels were well moved, I ordered him to be given five grains of calomel, and that this should be repeated in four hours if no operation ensued.

The next day I found that his bowels were moved, and that the nervous manifestations were somewhat less marked. I ordered him to be given spt. æther. nitros., well diluted, to have only milk for food, and awaited developments. I this day examined his urine, and found it slightly albuminous and loaded with urates, but devoid of casts. The next day I found no appearance of improvement. The tongue was heavily coated and with red points scattered over it, and with red edges; the lips

were parched and scaling; the respirations were 44, and the pulse 130. I found some tenderness in the right iliac fossa. The nervous phenomena were as bad as ever. The child lay picking at the bedclothes, and had phantasy.

I now concluded that the case was one of typhoid fever, and ordered the following mixture:

R Acid. sulph. aromat., f3j;
Acid. carbolic., gtt. iij;
Glycerinæ, f3jss.

M. Sig.—A teaspoonful every four hours.

I also continued the use of a mixture of spirit of nitre,—a teaspoonful in a tumblerful of water,—giving a tablespoonful every half-hour. I also ordered the lips to be kept soft with vaseline, and his tongue to be painted frequently with glycerin,—measures which are so very refreshing to fever-patients that I am surprised occasionally to find medical men who do not regularly employ them.

The next morning (February 27) I found the child's nose bleeding, and that his bowels had been moved at midnight,—a dark, tenacious passage. His lips were still much parched, his tongue was coated as before, his pulse 160, his cough incessant and harassing. I now ordered tinct. opii deodorat., one drop every two hours till he was quiet, and the carbolic-acid and sulphuric-acid mixture as before. He took four drops of the opium during the day and two at night. The next day (the 28th of February) his pulse was 176, his respirations were 40 and grunting, his cough dry and short. His restlessness was not nearly so marked as before. I then ordered—

R Tinct. digitalis, gtt. xij;
Syr. scillæ, f3j;
Liq. ammon. acet., f3jss.

M. Sig.—F3j every hour.

In the evening he had had two stools of a yellow color, thicker than mush and sticking to the bottom of the chamber. He had passed no urine since noon of the day before.

March 1.—I found a pulse of 172; cough very troublesome. Three stools had been voided during the night and one this morning,—soft, ochre-colored stools. He had voided urine also three times.

The same medicine was continued, and a drop of deodorized tincture of opium given several times during the day. The next morning (March 2) I found him decidedly better. Pulse, 140; respiration, 40, and easy; cough very slight. During the night his bowels had been moved once,—a thin, yellow, slimy passage, which stained the sheet as would a salt of iron. The same treatment—of the digitalis, squill, and acetate of ammonia, with the opium p. r. n.—was continued.

The next day he had but one movement, and seemed better. His nose bled again this morning. I now ordered him, for its tonic effect,—

R. Tinct. cardam. comp., f3j;
 Liq. ammon. acet., f3jss;
 Syrup. simp., f3ss.

M. Sig.—F3j t. d., in water.

During the following twenty-four hours he had five stools, and was given a drop of the opium after each. When I saw him in the morning (March 5), I was somewhat startled at his appearance. He was pallid, breathing superficial, lying asleep with his eyes half open and the pupils contracted. When I aroused him, however, I had the pleasure of seeing the pupils dilate fully, and finding he wanted to have my watch and pencil to play with, as had been his custom before. He was given no opium this day. Between dark and midnight his bowels were moved four times; and I ordered him to have twice a drop of opium.

In the next twenty-four hours his bowels were moved twice, the passages being a little darker and having more consistency. He passed no urine in the latter half of this period.

The next day (March 7) the little fellow was decidedly better. He sat up in bed; his bowels were quiet, his lips were soft, his tongue clearing up, his intelligence perfect, and his spirits rising.

Before March 8 his bowels were twice moved, with an appearance more natural; his cough was much less troublesome. The medicine prescribed March 4 was still being given. I found, this morning, a fine crop of sudamina on the abdomen.

March 9.—The boy was still better, sitting up in bed and playing with his toys. His bowels had been moved once since the day before. His medicine was continued t. d., and careful avoidance of strain enjoined, while his food was still restricted to milk.

March 10.—His bowels were moved but once in the foregoing twenty-four hours. The stool was small, brownish, and partly formed. His pulse was now 104, and his cough considerable.

After this his convalescence progressed steadily.

The chief points of interest in this case seem to me to be the following:

1. The early development of delirium.
2. The unusually troublesome character of the lung-complication.
3. The effect of the free use of opium.
4. The rapid convalescence, occurring within two weeks of the seizure.
5. The determination of the nature of the disease.

At first I had considerable doubt about calling it typhoid fever, because of the rarity of this disease in children; but when one puts together the symptoms—coated tongue, rapid pulse, high temperature, nose-bleed, bronchitis, delirium, tenderness over

the lower abdomen, numerous and characteristic stools, and finally the appearance of sudamina—I do not see how the diagnosis can be questioned. The exact thermometric range was not noted, for the reason that every attempt to do so excited the child very greatly, and I did not think it so important as to press the matter.

Some medical men have questioned the fact of the full development of Peyer's patches in little children; but only recently I have examined a specimen, taken from an infant that died of entero-colitis, in which they were as clearly defined as they are in an adult. If the case just described had terminated otherwise than as it did, I have no doubt it would have thrown some light on this subject.

114 SOUTH FORTIETH STREET.

ANTISEPTIC USE OF BORAX.

BY FRANCIS H. ATKINS, M.D.

THE editorial comments on the use of borax as an antiseptic in the *Philadelphia Medical Times* of February 11 call to mind two uses I have made of this drug with purely antiseptic motives. For eight years past I have treated all the cases of erysipelas that have fallen to me with a solution of borax in glycerin, one drachm to the ounce, well rubbed into the skin, and applied on linen. In every case it has seemed to cut short the disease promptly, the characteristic appearances beginning to fade in a few hours. One old man, a frequent sufferer, took a copy of the formula, saying that nothing had ever before relieved him so quickly. Sometimes tincture of iron was given internally, sometimes not.

In the same time I have frequently treated suppurating sores—the results of cuts, bruises, burns, etc.—with an ointment of borax, the strength being immaterial as long as there was plenty of borax. In these cases it generally checked the supuration at once, and the redness rapidly faded away. Indeed, in this minor way it has seemed quite equal to carbolic acid.

FORT STANTON, NEW MEXICO.

• DR. YACKE prefers atropia in menorrhagia and hæmoptysis to ergot. He uses hypodermically five drops three times per day of one part of atropia sulphate to one thousand parts of water.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

SERVICE OF DR. R. J. LEVIS.

Reported by CHARLES H. WILLITS, M.D.

INFLAMMATORY HYPERTROPHY OF BOTH LEGS, PROBABLY DUE TO INTERFERENCE WITH THE CIRCULATION AND LYMPHATIC AND NERVOUS SUPPLY, FROM PRESSURE, SECONDARY TO SYPHILITIC OSTITIS—TREPHINING OF THE INFERIOR MAXILLARY BONE—NERVE-SECTION FOR RELIEF OF NEURALGIA—AMPUTATION OF THE UPPER THIRD OF THE ARM, FOLLOWING RAILROAD INJURY.

GENTLEMEN,—This patient whom I bring before you is suffering from an affection whose pathological nature is not well known.

On his admission into the hospital it was considered a case of elephantiasis of both legs, an affection not very often seen in this country.

That condition is best described as a chronic hypertrophic disease of the skin and subcutaneous connective tissue, giving rise to enlargement and deformity, accompanied by some glandular and lymphatic involvement.

The pathological anatomy of elephantiasis shows the greater part of the growth or enlargement to be made up of hypertrophied connective tissue. The corium and epidermis varies much in thickness, according as the surface is smooth or roughened, and the vessels and lymphatics running through it are increased in calibre.

In this case, however, the diagnosis of elephantiasis has been set aside, for a closer study of the case seems to show an involvement not of the skin and connective tissue alone, but of all the surrounding tissues.

There has been an osteitis of the ends of both femurs and the upper portions of the tibiae, due to congenital syphilis, the effect of which has been to produce a backward dislocation of the tibiae, directly resulting from a weakening of the ligaments of the joints, and a contraction or shortening of the hamstring tendons.

These dislocated ends of the tibiae, exerting great pressure on the popliteal space, have partly shut off the circulation and materially interfered with the action of the nerves and lymphatics.

I therefore think the enlargement of the legs due for the most part to stoppage of the venous return.

The limbs present now this peculiar con-

dition,—great hypertrophy of the tissues of the legs and feet, a reddened, scaly appearance of the skin, backward dislocation of the tibiae, a peculiar bulging and thickening of the condyles of the femurs, and very attenuated thighs.

The fact of the syphilitic origin of this remarkable case is confirmed by the history of congenital syphilis and the signs of osteitis in the wrist-joints also.

The boy has been in the hospital since last June, and from the first amputation had been considered inevitable.

His treatment thus far has been preparatory to that end. He gained some in strength during the autumn, but for the last week has evinced such symptoms of decline that it was deemed unwise to defer the operation longer.

After the application of the Esmarch bandage, I choose a point at the lower third of the thigh for my amputation. Then I make good anterior and posterior flaps, with plenty of integument in them, cut obliquely through the muscles, transversely through the vessels, and saw through the bones.

This procedure I repeat on the other leg. The further treatment is as in all such cases: wash the stumps well with carbolic water the strength of about one part of carbolic acid to forty parts of water, ligate all bleeding vessels with carbolic catgut ligatures, cutting off both ends, bring the flaps together with silver sutures, and, finally, dress the stumps with carbolic oil or cosmoline.

Case II.—The next case is an old woman upon whom I operated a year ago for the existing trouble. At that time she was an intense sufferer with neuralgia of the lower teeth, to relieve which I trephined the lower jaw and drew out and cut off about three-fourths of an inch of the inferior dental nerve. She experienced great relief after the operation, but now has a return of the same trouble. No doubt in this case there has been a reproduction of the nerve.

This will very often happen after nerve-section, even if the ends are widely separated and turned back into the surrounding muscular tissue.

To-day I propose repeating the operation, using the dental engine in the place of the trephine, and endeavoring to reach the nerve as near as possible to its entrance into the inferior dental canal.

To reach the nerve at that point I assume a position about an inch and a half below the condyle and half an inch inside the ramus of the inferior maxillary bone.

I now make a curved flap-like incision along the edge of the ramus, and raise up the flap, carrying with it most of the insertion of the masseter muscle.

A smooth surface of the bone now presents itself, to which I apply the cutting-burr of the dental engine, and with great care drill through the bone.

There is no difficulty experienced in finding the nerve, which I drag out and cut off as near as I can to its origin from the main trunk.

I now show you about half an inch of the nerve. The hemorrhage—probably from the inferior dental artery that accompanies the nerve—I control by packing the wound with a dry sponge, held in place by a tight bandage.

I will allow this first dressing to remain until all signs of hemorrhage have ceased, when the edges of the wound will be stitched together.

Case III.—This young woman, our next patient, is suffering with severe neuralgia of the arm. Six months ago she cut the inside of her thumb with a knife: the wound healed, but resulted in severe traumatic neuralgia.

On tracing the course of the pain, as indicated by her finger, it apparently follows the track of the musculo-spiral nerve, and upon pressing that nerve in any portion of its course it appears to give some pain.

I cannot say positively that injury has been done to that nerve, for peripheral nerves from inosculation may affect other large trunks, as the median, radial, or ulnar.

Under ether I place the Esmarch bandage on the arm, not only to control hemorrhage, but also to make the parts clear for the search for any nerve-nodules.

I here see the evidence of a cicatrix upon the middle of the palmar side of the thumb, over the second phalanx, upon which I cut down and expose, distinctly, a nerve-trunk. There are no nodules upon it, but it is greatly hypertrophied.

I raise up the nerve, seize it with the forceps, and stretch it thoroughly. I then cut off about an inch.

The wound is then closed with silver sutures. I have no doubt that this operation will entirely cure the existing trouble.

Case IV.—This last case is a small boy, the victim of a railroad-accident. He was struck by the cow-catcher of an engine and thrown from the track. His head and body were much cut and contused, and his right arm nearly completely severed in two at a point just above the elbow-joint.

On his entrance into the hospital yesterday, the mangled arm was cut away by the resident surgeon, and I propose to-day to amputate high enough up to allow of the formation of a good stump.

The usual steps in an amputation of the arm are well known to you all, so I will not enumerate them. But, as this operation is high up on the arm, it will serve as a good illustration of the means employed in applying an Esmarch bandage or tourniquet over a conical surface, as the shoulder-joint.

To prevent it from slipping off and relaxing the pressure, I take this simple precaution. I pass a broad roller bandage, about a yard or two long, around the boy's neck on the uninjured side, and bring the ends to the front and back of the affected shoulder and arm. The Esmarch bandage is now applied *over* the muslin one, the loose ends of which are carried around the boy's chest and secured under the shoulder of the uninjured side. By this means all slipping of the rubber tourniquet over the curved surface of the shoulder is effectually prevented.

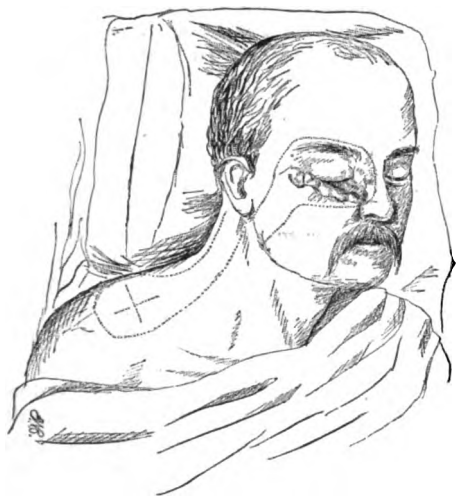
HOSPITAL OF ORAL SURGERY.

IT is claimed and taught by Prof. Garretson that epithelial cancer is curable through wide removal of an affected part and replacement of the ablated tissue by a flap brought from the greatest possible distance. This teaching is substantiated by examples running back thirteen years.*

On Saturday, February 18, an extreme illustration was brought before the clinical class of the Oral Hospital and a number of surgeons, where the disease involved both eyelids of the right side, extending well down upon the cheek, the contents of the orbit, including the internal and inferior bony floor, both nasal bones, the perpendicular lamella and cribriform plate of the os ethmoides, and, finally, the internal angular process of the frontal bone.

* See Garretson's System of Oral Surgery; also Duhring's work on Dermatology, last edition.

That epithelioma so related could not but prove quickly fatal is not to be doubted. The patient, a rugged man, showing no signs of cachexia, understood this, and was very desirous that an attempt should be made to save him. With such appreciation on his part, the clinician suggested that, both for the patient's and for humanity's sake, he would do the plastic procedure, as it offered the only possible chance for life, while at the same time it was a case that would do much to distinguish the boundary of good lying in the performance.



Etherization being secured, a section begun over the frontal prominence was carried down the nose to the ala, and across the cheek to the angle of the jaw. Going back to the place of departure, an incision through the integument was made across the temporo-zygomatic region, ending, finally, beneath the ear. The soft parts involved in these lines were next dissected out. Examination now passed to the condition of the bony parts, with a result of finding conditions as described. An immediately succeeding step in the operation consisted in removal of the eye and its appendages. Following this, the surgical engine, with its armature of an oval burr, was brought into requisition. The orbital floor, side, and part of roof, together with cribriform and perpendicular plates of ethmoidal bone, were removed. The attention of surgeons cannot too frequently be called to the virtue lying in this engine. The movements of it are so delicate and trustworthy that, while the burr in

this case was revolving fifteen thousand times to the minute and the operator was exposing the olfactory lobes of the brain, his speech, and apparently his attention, were directed to persons with whom he was conversing. The diseased parts all gotten clear of, a great flap, having its pedicle about the region of the ear and its termination over the scapula, was turned and stitched into the place before occupied by the parts removed. Three days later a crucial incision was made into that portion of the flap overlying the orbit; and the four ears thus secured were worked around the circumference of the cavity, being retained in position by a conical sponge compress, supported in turn by the monocolus bandage.

The cut accompanying will explain to the eye of a surgeon the various steps of the operation.

TRANSLATIONS.

FORCED ALIMENTATION—DANGERS, AND MEANS OF OBTAINING THEM.—Dr. Desnos, writing to the *Bulletin Général de Thérapeutique*, expresses the opinion that whilst forced alimentation is destined to be of great value in the treatment of phthisis, the introduction of the tube of Faucher and large amounts of the nutritive mixture through it may prove a source of danger, and thus present a serious obstacle to its use. Believing that in the interest of this new method its dangers should be early recognized, he has gathered a number of cases from his own practice and that of his colleagues illustrative of this fact. The first case that he mentions is that of a consumptive in whose lungs were cavities, and who complained of loss of appetite and inability to retain anything upon the stomach. Forced alimentation was tried after the oesophagus had been "educated" to the use of the tube for two days. One litre of milk was ordered; but hardly had a quarter of this quantity been introduced when a violent spasm of the stomach ensued: portions of the fluid were regurgitated through the mouth and nose, the face became livid, and asphyxia imminent. Upon the withdrawal of the tube, these symptoms somewhat abated, but within twenty-four hours a violent attack of pneumonia set in, which carried off the patient on the second day following. Particles of coagu-

lated milk had been noticed in the sputa of the patient after the tube was employed, and at the autopsy it was shown that some of the regurgitated milk had found its way into the smaller bronchi and had there set up the fatal inflammation.

Three other cases are cited in which the intolerance was so great as to render the use of the tube inadvisable. The applications of the tube in these three cases were made by a house-surgeon of the Charity Hospital, from which it has been objected that the unfavorable results might have been due to lack of skill on his part. In reply to this objection, Dr. Desnos avers that the operator was fully qualified, but that the method, to be of value, should be so simple and devoid of danger as to be capable of application by ordinary practitioners, under whose care the majority of such cases come. In conclusion, Dr. Desnos remarks that great care should be taken to prevent the entrance of any portion of the milk into the air-passages, and to avoid the contact of the tube upon its way downward with the exposed portions of the larynx. He has noticed that signs of suffocation do not present themselves until the fluid reaches the stomach, which he believes to be due to the shock produced by the sudden fall of a comparatively large quantity of the liquid upon the lower surface.

Setting aside the cases in which an absolute intolerance contra-indicates the employment of the tube, there are still those in which the tendency to spasm may be overcome by administering the food slowly and at intervals. It has been claimed that the fever is lowered and diarrhoea disappears under forced alimentation; but this is not always the case: the reverse has several times occurred. Dr. Desnos gives the moment of relative or absolute apyrexia as the most favorable time for making the injections, and considers that the best results are obtained when the food is given in small quantities, varied in composition to suit the condition of the digestion.

BORACIC-ACID-POISONING.—Dr. S. E. Molodenkow, of Moscow (*Wratsch.*, No. 31, 1881), reports two cases in which a solution of boracic acid (five per cent.) was used as a detergent antiseptic wash. One, a young man of 25 years, had an attack of pleurisy of three weeks' standing. The fluid effusion was withdrawn with an aspirator, and the pleural cavity washed

out with the boracic-acid solution, part of which was allowed to remain in the chest. Temporary amelioration followed, but the patient soon began to vomit. On the next day vomiting was constant, and the pulse became small and frequent; the patient was extremely feeble, and had hiccough. Towards evening an erythema appeared on the face, which, the next day, was accompanied by swelling, especially of the eyelids. On the following day the inflammation extended down the neck and became vesicular. The other symptoms became more marked; intelligence was unaffected to the last; death occurred on the fourth day. No autopsy.

The other case was 16 years of age, and suffered from a large lumbar abscess, which was opened, and washed with the above solution. The same symptoms were observed, and the patient died on the third day. The author summarizes the symptoms of poisoning by boracic acid as follows: "vomiting constant; hiccough; erythema, commencing on the face; a slight temporary elevation of the temperature; and a diminution in the contractility of the heart, proceeding to complete cardiac paralysis."

As a counter-poison, the author recommends the use of morphia and stimulants.—*La France Médicale*, January 18, 1882.

[Further observations are needed before we can be satisfied that boracic acid is solely responsible for the results in the above cases.—TRANS.]

RESULTS OF NERVE-STRETCHING IN VARIOUS NERVE-DISORDERS.—Out of one hundred and forty-seven published cases of nerve-stretching which B. Nocht collated, the permanent results were sometimes less favorable than they promised soon after the operation; and in one of Prof. Westphal's cases stretching of the crural nerve was followed by acute myelitis. After reviewing the several applications of this surgical expedient, he concludes that "in neuralgia, in tetanus and epilepsy, nerve-stretching has an incontestable value, but that in disorders of the motility and in affections of the central nervous system (at least it so appears from the reported cases) nerve-stretching can only be recognized as a symptomatic remedy, and not devoid of danger."

The following is a *résumé* of the cases cited (*Centralblatt für Chirurgie*, No. 6, p. 90):

In *sciatica* there were twenty-four cases, of which twenty-one were cured, in sixteen of which the result was immediate and permanent. One died of pyæmia; in another permanent lameness appeared.

In *trigeminal neuralgia*, seventeen cases. Ten were at once favorable; five were cured after a greater or less time; in two a relapse occurred. Out of four cases of resection or tearing of the nerve, three were cured.

In *traumatic neuralgia* a good result was obtained in two-thirds of the cases; in a few no result beyond temporary relief was experienced.

In *convulsive tic* seven out of eight cases had relief from the cramps; but facial paralysis followed in six. No return occurred in five cases kept for a long time under observation.

In *accessorius cramp* only in two out of seven cases was notable and lasting improvement obtained.

In *disturbances of motility* in the extremities a good result appeared in three out of six cases.

In *traumatic tetanus* six cases out of twenty-four were cured. Since in two of these energetic general treatment was also kept up, only in four (sixteen per cent.) could the success be attributed to the operation.

In *reflex epilepsy* good results were obtained; in three cases of congenital epilepsy improvement or cure resulted.

In *tabes dorsalis* amelioration of symptoms, especially of the pains, was obtained in a few cases, where sensibility, ataxia, and difficulties of the bladder and rectum improved; in others unfavorable results appeared, such as anæsthesia and paresis. The knee phenomenon was not re-developed.

In other diseases of the spinal cord unfavorable results preponderated.

DEEP CARCINOMA OF THE NECK OF BRANCHIAL ORIGIN.—R. Volkmann has met, during the last ten years, with three cases of primary carcinoma in the upper third of the neck, originating deep among the muscular structures, but without any connection with the skin, mucous membrane, or cervical glands. These heteroplastic growths he believes to be due to embryonal germs included in the joining of the branchial fissures and remaining deep in the cervical tissues until some unrecognized influence called them into active growth.

VOL. XII.—13*

To the cysts (Roser, Schede) and chondroma and chondrosarcoma (Max Schultze, Lücke) occurring in this region, and of recognized branchial origin, he adds this third or malignant form, which is obviously the rarest.—*Centralblatt für Chirurgie*, No. 4, p. 49.

MENINGEAL INTRACRANIAL HEMORRHAGE—TREPHINING—RECOVERY.—Weljaminow reports (*Wratsch.*, 1881, No. 42), from C. Reyher's surgical clinic, a case of a man 31 years old, who fell from a step and struck his head. Symptoms of compression following, the slight scalp-wound was enlarged on the eighth day, a trephine applied, and a clot of blood removed from the surface of the dura mater. Seventeen days later the patient was well enough to leave his bed.

According to Bergmann's statistics, this makes the hundredth case of hemorrhage from the middle meningeal artery, the seventeenth of recovery, the fifth of intracranial hemorrhage, and the fourth in which trephining was successfully performed for the relief of compression of the brain.—*Centralblatt für Chirurgie*, No. 4, p. 62.

RECOVERY AFTER GUNSHOT WOUND OF THE BRAIN.—The *Deutsche Zeitschrift für Chirurgie* (Bd. xv. H. 5, 6) has the details of a case of pistol-shot of the head, where the ball entered the right parietal region and traversed the right hemisphere of the brain. Motor paresis of the legs existed for a time, but in three months the patient had completely recovered. Twenty months later he shot himself again, this time fatally. In the track of the former wound fatty degeneration of nerves and cells was found at the autopsy. The bullet was encysted near the falx.

IODOFORM-POISONING.—Max Schede, of Hamburg, in a communication to the *Centralblatt für Chirurgie* (No. 3, 1882), calls attention to the fact that iodoform applied to wounds and ulcers produces in some patients dangerous symptoms which forbid its use, although in most individuals no unfavorable result follows its free employment. He says, "There is an idiosyncrasy against iodoform, which makes it, for certain persons, a poison, and one all the more dangerous because no warning whatever is given which should indicate special caution. On the other hand, in a number of cases the toxic action seems to be cumulative and without premonition, the symptoms suddenly appearing and with great

gravity, the prompt removal of the remedy being often insufficient to avert the fatal result. The danger is greatest in children and in the treatment of recent wounds."

THE ETIOLOGY OF MORBID GROWTHS.—Cohnheim's theory of the origin of tumors, which considered them as atypical neoplasms from embryonal structures, and declared that every true tumor is traceable to deformed or persistent foetal cells, received strong confirmatory support from Zahn's well-known experiments, reported to the Congrès International de Genève. More recently, Leopold, in a paper upon "Experimental Investigations on the Etiology of Tumors" (*Virchow's Archiv für Path., Anat. und Phys., etc.*, Bd. lxxxv. pp. 283-284), reports a number of physiological experiments made with foetal cartilage, from which he makes the following statement as the result of numerous trials:

Pieces of cartilage taken from dogs after their birth and implanted in living tissues are reabsorbed or shrink, or, in some cases, remain stationary. Foetal cartilage, on the contrary, after implantation in a foreign organism, always lives and grows: indeed, it may increase to two or three hundred times its original size, and develop into a true tumor, an enchondroma.—*Centralblatt für Chirurgie*, No. 6, p. 85.

HYSTERICAL TREMOR OF LEG CURED BY STRETCHING THE SCIATIC NERVE.—In Paris, a girl of 18 years, who had suffered from convulsive hysteria from her third year, was admitted into the Hôpital Beaujon, suffering with contusion of the knee, caused by a fall on July 13, 1880. For four months she had hysterical aphonia, which was entirely and permanently relieved by chloroform inhalation; shortly afterwards, a constant tremor or rhythmic convulsion of the muscles of the limb, including flexion and extension. The leg became œdematous and congested while walking about, so that she had to be put in bed with the limb suspended. The swelling now subsided, but the trembling persisted. Anæsthesia existed upon the same side; the other, or left side, was hyperæsthetic. Pressure upon the sciatic nerve gave pain. M. Blum decided to stretch the sciatic nerve, which was performed, August 4, with great success; and the patient had entirely recovered by December 29.

Stretching of the sciatic quickly and finally suppressed the convulsion, without subjecting motility or sensibility to the

slightest diminution. On the contrary, the patient had more strength in the limb, and felt better, than before the operation.—*La France Médicale*, January 26.

THE DANGERS OF IODOFORM.—A REQUEST FROM PROF. KÖNIG.—Prof. König, of Göttingen, on account of the rapidly increasing use of iodoform by the profession, considers it so important to have reported all cases of death resulting from its employment, or cerebral disturbances following its continued exhibition, that he makes the request in the *Centralblatt für Chirurgie* that those under whose observation such cases may occur will kindly forward to his address brief reports of the same, with the privilege of publication in the *Centralblatt*.

CONGENITAL FISTULÆ IN THE SACRAL REGION.—At the session of the Société de Chirurgie of January 25, M. Terrillon reported three cases of fistulæ existing at or near the base of the sacrum. The direction of the fistulous tracks was oblique and towards the spinal column. The bone was not denuded; it discharged a liquid containing fatty matter and pavement epithelial cells. From time to time an abscess occurred in the neighborhood, which opened and left another sinus, until three or four fistulæ were formed. Two male cases treated by excision and the hot iron were cured; the third, a woman, refused treatment. The reporter had found them in several infants, and insisted upon their congenital character and upon the occasional attacks of inflammation followed by abscess.

TREATMENT OF HYDROPHOBIA.—In a discussion upon the use of Hoang-Nan in hydrophobia before the Société Médicale des Hôpitaux, a case of failure was reported in which the remedy had been used both by the mouth and hypodermically. Dujardin-Beaumetz spoke in favor of the Russian treatment by the hot-air bath, with the internal administration of garlic or of sulphide of allyl, and said that he had treated, six months ago, three persons in one family by this method, in whom no hydrophobic symptoms subsequently developed, although they were all bitten by a dog known to be mad, and their wounds were not cauterized. He had also made experiments with *valdivine*, and found that it does not cure hydrophobia, although it prevents its access.—*La France Médicale*, No. 13.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MARCH 25, 1882.

EDITORIAL.

PROF. JOSEPH PANCOAST.

JOSEPH PANCOAST, M.D., Emeritus Professor of General, Descriptive, and Surgical Anatomy in the Jefferson Medical College, died at his home in Philadelphia, March 7, 1882, in the seventy-seventh year of his age. During the past five or six years the health of the great surgeon had steadily but surely failed, and of late it has been painfully evident to his many friends that his illness could have but one termination. His death, therefore, though sincerely mourned, was not unexpected. At the end of a long and active career, in which he achieved eminence and received distinction such as the world awards to few, he passed away, surrounded by his family, ripe in years and honors, and happy in the consciousness of a well-spent and most useful life. Born in Burlington, New Jersey, in 1805, he was graduated at the University of Pennsylvania in 1828, and at once entered with ardor into the active duties of his profession as teacher, author, and practitioner. In 1831 he began systematically to lecture upon anatomy and surgery, and in 1834 was elected one of the physicians to the Philadelphia Hospital, and soon afterwards was also appointed physician-in-chief to the children's department of the same institution. In 1838 he was constituted a visiting surgeon, and served the institution until 1845, when his increasing duties compelled him reluctantly to relinquish a position with which he had been so long identified and which had afforded him so much interesting and valuable experience. He always referred to his connection with the Philadelphia Hospital as a period of great activity in making

numberless models and illustrations for his lectures, obtaining preparations and dissections, and in carrying into effect many novel and ingenious methods of treatment. In 1854 he was elected one of the attending surgeons to the Pennsylvania Hospital, from which he resigned in 1864. It was during this period that he performed the first successful hip-joint amputation that had ever occurred at this hospital. His connection with Jefferson Medical College began in 1838, when he was elected professor of surgery, a worthy successor to George McClellan, whose vacant chair he was appointed to fill. When the school was reconstructed in 1841, Prof. Pancoast took the chair of anatomy, dividing the clinic with the professor of surgery. In this and the former position, for thirty-six years, he faithfully and zealously labored, with his distinguished colleagues, to build up the reputation of the school with whose success he is identified. In 1874 declining health compelled him to resign his more active duties, to which his son, Prof. William H. Pancoast, succeeded, although for several years he kept up his interest in the clinic and occasionally lectured.

The literary labors of Prof. Pancoast, although fully attesting his great originality and ability as a writer and contributing not a little to his reputation as a surgeon, yet unfortunately are not as numerous as they would have been had he been less enthusiastic as a teacher and less busy as a practitioner. A translation from the Latin of Lobstein's "Treatise on the Structure, Functions, and Diseases of the Human Sympathetic Nerve," and of Manec's works on "The Sympathetic Nerve" and "Cerebro-Spinal Nervous System," his "Treatise on Operative Surgery" (first published in 1844), his edition of Wistar and Horner's Anatomy and of Quain's Plates, and a number of monographs and essays in the medical journals, demonstrate his ability as a surgeon and as an author, but do not equal his reputation as a skilful and successful

operator. Prompt in emergency, ingenious and ready in resource, ripe and sound in judgment, and brilliant in results, his possible contributions to medical literature are indicated in part in the occasional published reports of his clinical lectures, which inspire regret that he did not follow out the often-repeated suggestions of his colleagues and write a systematic work on surgery. It is to be hoped, however, that his literary executors may be able to supply from his case-books and scattered reports a memorial volume worthy of his reputation.

The fame of Prof. Pancoast was as great in Europe as in this country, and he was a member of a number of learned societies in different parts of the world. The memory of the banquet given in 1868 by the profession in this city to Profs. Pancoast and Gross on their return from a tour in Europe, which had been an extended ovation, is still fresh in the minds of the profession. Of the surgical achievements of Prof. Pancoast we need not speak. They belong to the history of American surgery. A fluent speaker, he possessed the gift of inspiring his hearers with some of his own zeal and enthusiasm, and his students, recognizing his genius, gave him their esteem and affection. Indeed, his clinical lectures had a peculiar charm, which only those who heard him in the fulness of his powers can now appreciate; they can also recall the fact that he was always greeted with applause, and his teachings were received with rapt attention. A man of great and diversified endowments, his moderate size gave little promise of the greatness of his mind. A diligent student, a perfect anatomist, a dexterous and skilful surgeon, he certainly was; but the paintings that he made also display his skill as an artist, while poetry of a decided literary merit attests his ability to shine in other paths had not his special predilection for surgery led him to undertake a life-work which has rendered so great a service to American surgery and to humanity.

THE PROGRESS OF THE SPECIALISTS' SCHEMES FOR PLUNDER.

THE specialists who have lusted after the flesh-pots of New York homœopaths are perhaps not going to have as easy a road to travel into opulence as they thought. The medical journals of New York City are giving their pages to indignant correspondents, and there are some indications that the *New York Medical Record* may have been premature in giving these ethical reformers its support. Worse than all, they are wounded and repulsed in the house of those whom they would fondle for lucre's sake: the homœopathic specialist evidently has at least one eye open. In his recent annual address the President of the Homœopathic State Society said "that though it had been assumed that the homœopathic school were deserting their principles for the sake of affiliating with their brethren of the dominant school, the allopathic school was dominant no longer, as was evidenced by the offer of its supporters to consult with their formerly despised brethren."

A revolt is also threatened on the part of some of the regular county societies; and, altogether, it would not be surprising if matters were lively at the next Annual Meeting of the New York State Medical Society.

Meanwhile, the homœopaths have entered the cheap-John race with the colleges patronized by some of the regular profession, to cast out as much of crude material upon the community as possible. The Homœopathic Medical College of Chicago is said to have graduated two hundred and sixty-six students on February 24. As these institutions, regular and irregular, live by selling the right to practise medicine, where one diploma covers everything, pathy or no pathy, the cheapest will thrive best in the market. Verily, some of our Eastern colleges must bestir themselves to get their standards still lower, if possible.

TO our recent remarks upon *chinolin* it has seemed worth while to add the following facts. The ordinary commercial chinolin is a reddish-brown liquid, while the tartrate is a white crystalline powder. It often has a disgusting tobacco-like odor, due to some uncombined chinolin or to slow decomposition. Rueber* found that by repeated distillations of chinolin made synthetically according to Skraup's method (48 parts of nitro-benzole, 76 parts of aniline, 240 parts of glycerin, and 200 of English sulphuric acid), he obtained a *colorless*, transparent, oily liquid which remained unchanged after six months, from which a specimen of fine acicular crystals of chinolin tartrate was obtained, which possessed only a faint odor. The salt was insoluble in ether, soluble in sixty-five parts of alcohol and in twenty parts of water at 15° C.; but water at 100° dissolves six times as great a proportion: the excess afterwards deposits on cooling. It is given in doses of one or two grams to adults, in wafers. It may be given to children in equal parts of syrup and distilled water. Peppermint is suggested as best adapted for disguising the taste. It does not cause any unpleasant after-effects, and has not, thus far, produced tinnitus or other cerebral disorder.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the Hall of the College of Physicians, Philadelphia, November 23, 1881, Dr. Albert H. Smith, President of the Society, in the chair. A discussion of Syphilis, by appointment of the Society, was opened by "Remarks upon the Clinical History of Chancre and Chancroid" (see p. 405), by Dr. John Ashhurst, Jr., followed by a paper from Dr. John B. Roberts upon the "Relationship of Scrofula to Congenital Syphilis" (see p. 409).

DISCUSSION ON CHANCRE AND CHANCROID.

Dr. J. Wm. White said that very little, if anything, could be added to the admirable

summary of the clinical history of chancre and chancroid by the lecturer, but he felt obliged to differ from him as to the probable cause of the latter affection. There are many good reasons for belief in the non-specificity of chancroid. A few of these may be mentioned. Chancroid has no period of incubation, which is an almost constant feature of specific diseases. It does not protect from a second attack; it is not self-limited. Repeated inoculations show progressive enfeeblement of its power of transmission, which is finally lost. This diminution of the power of inoculation is not noticed at all, or but very slightly, in the true specific diseases. It may be produced with all its so-called "specific" characteristics by inoculation with the secretion from an irritated infecting chancre. It is hardly to be supposed that the irritation of the chancre generates *de novo* this chancroidal poison, but, if not, how are these sores, known as Clerc's chancroids, to be accounted for other than by the theory of pus-contagion? And if these may be produced in that manner, why not all chancroids? Again, it has been shown by the experiments of Dr. Wigglesworth, and those made by Vidal many years previous, that chancroidal sores were obtained by inoculation with pus from acne. These sores pursued the same course as ordinary chancroid, and were, in fact, indistinguishable from it. Then, again, sores which were to all appearance chancroids have in many cases been followed by evidences of syphilis; and this assertion rests upon the evidence of some of the most accurate clinical observers. A belief in the imaginary "mixed" sore, or one in which two distinct kinds of virus have been implanted, would require the acceptance of a phenomenon without parallel in pathology, of two poisons running their course side by side at the same time and in the same locality. Vaccino-syphilis is not, as has been asserted, strictly analogous, for the vaccine disease pursues its course and terminates it before the appearance of syphilis. In these cases, then, of chancroidal sores followed by syphilis, it seems more reasonable to suppose that such sores are local developments, the result of pus-contagion, and which have the poison of syphilis inoculated simultaneously with the irritating purulent secretion which produced the local disturbance. He would also have to differ from the lecturer in his statement that there is no tendency to spontaneous cure, and that "specific" treatment is necessary. For a number of years the speaker had only cauterized venereal sores under very exceptional circumstances, having found in the case of chancroids that this procedure was not necessary for cure. Since adopting simple treatment in chancroid he has had better results. His attention was called to this by a paper in the *Boston Medical and Surgical Journal*, written by Dr. Greenough; and since adopting it he has un-

* Monthly Review of Medicine and Pharmacy, translated from Schweizerische Wochenschrift, No. 49.

questionably had a smaller proportion of complications, such as phimosis and bubo, and has shortened the time of the cure.

For these reasons, he thought that the specificity of chancroid could not be taken as proved, but that the probabilities are on the other side,—*i.e.*, that it is a local manifestation of pus-contagion, which is sometimes followed by syphilis, because the syphilitic virus may also be deposited at the same time, the ulcerative process in some persons overshadowing or altogether preventing the new cell-growth which gives to the true chancre its clinical peculiarities.

Dr. Frank Woodbury said that he would report two cases from private practice, of multiple hard chancre, one having three and the other two primary lesions. S. R. B., white, about 32 years of age, a married man, while on a visit to Washington had impure connection on November 27, 1880. Having some knowledge of venereal disease, though never having suffered from chancre, he examined himself daily for any suspicious appearances, but nothing was seen until December 23, when he noticed a slight papular induration immediately behind the corona glandis upon the dorsum of the penis, and on the next day another papule appeared at the side of the first. On the day after Christmas he applied for treatment, when three indurated chancres—two elliptical and of moderate size, the other round—were seen in a row parallel with the border of the glans and behind it on the shaft of the penis. They were touched with carbolic acid to satisfy the patient, and mercurial treatment used (black wash locally, and protiodide internally). On the 30th diarrhoea was produced by the medicine, which was changed to the biniodide on the following day, and on January 5 a pill of calomel and opium was substituted. In spite of the specific treatment, the secondary symptoms duly made their appearance, on the 17th, by a papular, coppery eruption on the back, which, during the next few days, spread over the shoulders, chest, arms, and face. The chancres showed some superficial erosion, perhaps due to the acid, but there was no decided suppuration; they gradually diminished, apparently more from the effects of the black wash than from the general treatment, for the indurated inguinal glands in both groins, noticed at the first visit, remained the same until the patient was lost sight of in February, with the eruption still out upon him, the corona veneris upon his forehead and a papular syphilide on his hands.

The second patient was an African, 28 years of age, a waiter. He had suspicious intercourse December 12, 1880, and four days later had a gonorrhoeal discharge, for which he was treated unsuccessfully. A week later he first came to Dr. W.'s office with a characteristic free purulent urethral discharge and a left-sided adenitis. Omitting details of treatment, it was

noted that, on January 17, the discharge had entirely ceased, he passed water without pain, and the inguinal gland had not suppurated; but now two suspicious papular elevations appeared on the dorsum of the penis in the same position as in the preceding case. A week later the chancres were split-pea-sized, not tender nor ulcerated, and there was observed an enlarged marble-like gland in the left inguinal region that apparently had remained from the former adenitis. The disease yielded to the treatment adopted in the former case, but no record was made of any subsequent manifestations: if any occurred, they were slight. The patient was in good health a year afterwards.

The above cases are reported on account of the rarity of multiple infecting chancres, and the definite history of inoculation and the period of incubation. From observation of venereal sores made while at the Pennsylvania Hospital and since, the speaker could confirm the distinction laid down as existing between the clinical history of the initial lesion of syphilis, and other venereal ulcers; but he was not prepared to entertain the theory of a specific character for the soft, local sore unless the lecturer would be willing to admit a third form of lesion, which while venereal in its origin would be neither syphilitic nor due to any other specific poison. He had no doubt that many causes might produce a simple superficial ulceration, which would rapidly heal without any other than hygienic treatment.

In regard to the possibility of a combined poison being communicated, he thought that the second case showed that gonorrhoea and syphilis are not incompatible under certain circumstances, although far from being identical, as claimed by John Hunter and more recently by Hammond. In obscure cases it may be found that the slight induration escapes observation, or that a previous soft sore may subsequently develop into a chancre with more or less induration. A woman having an assortment of diseases may thus give gonorrhoea to one, chancre to another, simple ulceration to a third, while a fourth may have a combined attack, or may escape altogether. In a careful consideration of the clinical history of syphilis, the fact should not be overlooked of the varying susceptibility of the individual, which we all acknowledge to exist in the ordinary zymotic diseases: while one may be exposed without contracting any disorder whatever, or escape with a trifling local manifestation, another from the same source of contagion may acquire syphilis in its most malignant form. Syphilis in exceptional instances may be a local disease; as the rule, it is a specific constitutional affection; chancroid, as the rule, is purely a local lesion, rarely it is associated with phagedæna and more or less profound depression of the system, and in this form is contagious. Ulcera-

tions of the genitals are not necessarily either venereal or specific.

Dr. M. S. French believed that the number of infecting chancres seen to-day is not so great as formerly, and especially are they less frequent in the higher classes. In confirmation of the views expressed by the lecturer with regard to phagedæna being caused by irritation, he stated that simply by keeping the surface clean and covered by lint, the ulceration would not spread, and no phagedæna would occur.

Dr. W. R. D. Blackwood inquired more particularly with regard to the communication of syphilis by the milk in nursing and by the secretions. It had been his opinion that there was little danger from nursing unless there should be some abrasion upon the nipple. Nor did he believe that syphilis was communicable by the saliva unless it should contain some broken-down cells from a mucous patch in the mouth.

In reply to some remarks of the lecturer, Dr. White called his attention to the fact that he had not explained the circumstance that many eminent surgeons and accurate clinical observers had seen syphilis follow sores having all the characters of chancroids, and which were under observation from the beginning to the end of the disease. To deny the possibility of this is to impugn the testimony of men who rank second to none in the profession. To explain it on the theory of specificity of the chancre involves, as has been said, a belief in the undemonstrable "mixed" sore, the existence of which there are very good reasons, from a pathological stand-point, for doubting.

With regard to the inoculation of pus, accidental or otherwise, and to the immunity from chancroids observed in hospital surgeons, nurses, and others whose fingers are often bathed in purulent secretions, the differences are clearly due to anatomical conditions. Extra-genital chancroids are, it is true, of the rarest occurrence. In the lower classes, however, those seen in hospital and dispensary practice, exposure of other parts than the genital apparatus to contact with chancroidal pus cannot be very infrequent, but it seldom affects them, by reason of their resistant epidermis and comparatively firm structure.

The erectile tissue of the glans penis, and the abundant loose cellular tissue of the external genitals of the female, offer favorable conditions for the development of ulceration as a sequence of local irritation. The vagina must undoubtedly with great frequency be exposed to contact with this pus arising from chancroids, and yet it is almost as uncommon to find such sores on the vagina as to find them on the fingers. They are also very rarely seen on the parts in the neighborhood of the penis in the male, and nineteen-twentieths of them are seated upon the glans, which, as a matter of fact, is not much more

exposed to contact with pus arising from chancroid in women than are other portions of the penis. Whatever the explanation, it is an indisputable clinical fact that exposure to irritating pus, no matter whence it is derived, *may* be followed by sores indistinguishable from chancroids.

Within a few days he had seen a case of gonorrhœa in which, as a consequence of neglect, balanitis and inflammatory phimosis had ensued, and it had finally become necessary to lay open the prepuce. In so doing, the glans was found extensively ulcerated, the ulcers excavated, having abrupt edges, filled with pus, or, in other words, having all the appearances of chancroids, although in this case the pus was gonorrhœal and only acquired its extremely irritating properties by reason of its retention and decomposition beneath the foreskin.

Such cases are so common in hospital practice that this was only mentioned as bearing upon the general subject under discussion.

Dr. Samuel Ashhurst said that the point of special interest to him was that bearing upon the remarks of Dr. White with regard to the specific character of chancre. He had always regarded this as a specific lesion, but the open bubo was a difficult matter for him to solve; the extreme tediousness of some of these cases had been already alluded to, and he had more than once been baffled in his hospital experience, and had even resorted to the application of the actual cautery in order to get a new surface for healing. He had recently met with a case that shocked his conclusions in regard to the necessity for specific treatment. A case of serpiginous ulceration that was obstinate to local treatment had passed out of his hands, and he subsequently found that he had rapidly recovered after using some decoction of herbs made by an old black woman.

In taking his seat, he asked the lecturer to give his views regarding the specific character of the open bubo that so often accompanies chancre.

Dr. John B. Roberts requested information in regard to those cases where the chancre is only papular and does not ulcerate: is the disease communicable by them? Also in reference to the desirability of cauterizing syphilitic sores.

Dr. John Ashhurst, Jr., said that he would reply to the queries in inverse order. With regard to the papular chancre, he doubted if the initial lesion of syphilis ever passed through its course without ulceration, although the ulcerated spot might be only the size of a pin's head. In the vast majority of cases the disease was communicated by secondary lesions. With regard to cauterization of venereal sores, the best authorities did not recommend the cauterizing of true chancres, and he certainly did not himself.

The object of cauterizing the chancroid is not only to aid its healing, but also to prevent its spreading by auto-inoculation; although the secretion remains virulent to the last, the chancroid, if cauterized, is less likely to spread, and where auto-inoculation occurs it is due to insufficient cauterization.

With regard to the serpiginous forms of venereal ulcer, he had already stated that some of these were not chancroidal, but syphilitic: in such cases there may be not the ordinary syphilitic bubo, but serpiginous ulceration, just as in old ulcers of the legs in syphilitic subjects. Cauterization may be desirable in such cases, but they also require constitutional treatment. Then there are some ulcers which may closely resemble the serpiginous venereal sores, and which yet are not venereal at all, such as some forms of lupus and the "esthiomène" of French writers. In nursing, he did not believe that the blood or discharge mingled with the nurse's milk could communicate syphilis unless by inoculation upon the child's mouth or lips: the poison would not be absorbed in the process of digestion.

With regard to the relative prevalence of chancre and chancroid, undoubtedly chancroid was, some years since, much more common than true chancre; but a change was coming about now in this respect, and the syphilitic lesion was rather more frequent at present than it had been formerly, though still, he thought, less so than chancroid. The difference according to social condition undoubtedly exists: the "better classes" of unchaste women are more likely to communicate chancre than chancroid. Chancroid is painful and will prevent intercourse; the mucous patch is not painful. There is another source of contagion that has not been mentioned: some cases believed to be gonorrhœal are really syphilitic. There is a discharge from the male urethra which has the power of communicating syphilis; this is not a primary lesion, but may be a secondary or tertiary affection: there are clinical differences as to the character of the discharge which distinguish it from gonorrhœa, and it will not get well without constitutional treatment. Similarly there may be in the female a syphilitic discharge from the cervix uteri which the woman does not consider anything more than leucorrhœa.

In reply to the question of Dr. Woodbury, he would say that he had no doubt of the existence of varying individual susceptibility, and referred to the well-known case of three students who acquired from the same source chancre, chancroid, and gonorrhœa respectively. This might be explained by a kind of acclimatization: if a man had had gonorrhœa several times, he might have only a slight attack of urethritis. Again, a syphilitic person would not acquire chancre, though he might have chancroid or gonorrhœa. More-

over, there is a certain immunity conferred by hereditary influence, as illustrated by the histories of certain noble families of Europe. Persons having a thicker skin than others are less likely to absorb the poison, and are therefore less susceptible to syphilis.

With regard to Dr. White's argument, the first point is that chancroid has not a period of incubation and does not protect from a second attack. These peculiarities are only seen in constitutional diseases such as scarlet fever, and he had always believed and taught that chancroid was strictly a local disease. Then, again, the courses pursued by the sore caused by ordinary pus-inoculation and chancroid are different. The chancroid produces bubo, but the pus-sore does not. Cases have been indeed reported, but there is room for doubt as to their authenticity. In Dr. Wigglesworth's experiments no bubo occurred, but the sores rapidly healed. This is not the course of chancroid. There is a case reported by Dr. Taylor (and I have great respect for his opinion; he is one of the best syphilographers of the day), in which a married man, who was syphilitic, also acquired gonorrhœa; six days afterwards he had a crop of herpetic vesicles, and still six days later several chancroids, which were believed to have originated from the gonorrhœal pus flowing over the herpetic ulcer. While drunk, he had intercourse with his wife, and communicated chancroid to her, and she afterwards acquired syphilis on her own account. I confess to having some doubt as to the reliability of testimony given by such patients. In Dr. Wigglesworth's case there was no subsequent trouble whatever after inoculation with acne pus, but the sores soon healed: there was no bubo.

With reference to the mixed sore, Dr. A. did not see any special difficulty in the way of mixing the syphilitic virus with the chancroidal; the individual may acquire syphilis at the same time with chancroid, or previously, or he may acquire syphilis from a mucous patch in the mouth of the same woman from whom he obtains a chancroid on the penis, and in the course of time an indurated sore (what Fournier calls the *pseudo-chancre induré*) may appear on the penis at the site of the chancroid, and may readily be mistaken for the initial lesion.

In regard to the spontaneous healing of chancroid, he had said that such sores might do well under simple treatment, such as the use of iodoform powder or ointment; but he cauterizes them to prevent auto-inoculation. The vast majority of patients cannot be trusted to be sufficiently careful; the best thing is for the surgeon to cauterize a chancroid, by which plan the danger of auto-inoculation is much diminished; the sores will then heal under simple treatment.

There is, however, not the same tendency to get well in a chancroid as in an ordinary pus-sore. While I have great respect for the

opinion of gentlemen who entertain the views advanced by Dr. White, it really seems to me that they shut their eyes to things that are right before them. Surgeons inoculate themselves with pus a hundred times in the course of a year, by pins in bandages, etc.; but they do not have chancroids resulting.

In reply to a question regarding the treatment of chancroid at the meatus, with retention of urine, I would recommend that the surface be covered for the time being with a strong solution of nitrate of silver, and then a catheter might be passed.

Dr. Ashhurst, in conclusion, said that there were many instances in the history of medicine in which diseases generally believed to be different were regarded by other observers as identical. For instance, Hebra taught that chicken-pox and smallpox were the same disease; and it was held for many years that measles and smallpox were the same. Dr. Bumstead put the thing in a very proper light when he spoke of the impossibility of distinguishing between plants by merely examining their seeds. When the seeds were planted, and the leaves and flowers appeared, the distinction was easily made. In the same way, cases might often occur in which the surgeon could not say at once whether a given sore was chancre or chancroid, or, on the other hand, whether it was chancroid or an ulcer accompanying balanoprophitis; but let the course of the disease be watched, and its nature would soon become apparent.

It is true that in the vast majority of cases chancroids are upon the genital organs and surgeons' wounds upon the hands; but the explanation I would give is that surgeons inoculate themselves with simple and not chancroidal pus; and the reason why patients get chancroid upon the penis is because they put the organ where the chancroid is. If the surgeon should put his finger where chancroid was, he would also get chancroid upon his finger if the skin were thin or broken. This has actually occurred in some cases, and the resulting sores have been very different from those resulting from the accidental inoculation of simple pus.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, DECEMBER 22, 1881.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Heart with atheromatous coronary arteries, from a case of angina pectoris. Exhibited by S. F. HAZLEHURST, M.D.

MARION B., æt. 34, had suffered for several months from pain at the pit of the stomach, now and then occurring in paroxysms, attended with dyspnœa, the attacks gradually becoming more frequent and of increased severity, causing great distress.

The only noticeable symptom was an aortic murmur.

December 12.—She returned to the dispensary, reporting herself as somewhat improved, which she attributed to a mass of small lumbricoid worms vomited that morning.

December 14.—She died.

Post-mortem, six hours after death.—Stomach first examined: somewhat congested in appearance. Heart rather more easily torn than usual; one of the aortic valves considerably ossified and bound back against the aortic wall. Coronary arteries almost obliterated. Aorta atheromatous.

Tumor of spleen. Exhibited by Dr. JAMES TYSON.

The specimen was apparently a *gummy* tumor, involving a central segment of the spleen all the way across the shorter diameter, being two inches in its longer diameter, which coincided with the shorter one of the spleen, and one and one-half inch in its vertical or shorter diameter. It occupied the exact central segment of the spleen, which it divided into two nearly equal parts, the connective tissue of the growth being continuous with the trabecular tissue of the spleen. The spleen itself, including this intermediate new growth, was rather smaller than usual, measuring three and one-half by two inches.

The condition was unexpectedly found at an autopsy made before the class at the University.

THURSDAY EVENING, JANUARY 12, 1882.

VICE-PRESIDENT JAMES TYSON, M.D., in the chair.

Two cases of unusual cardiac disease. By Dr. J. H. MUSSER.

CASE I.—I saw the patient from whom this specimen was removed, the day previous to his death. He was so very ill that only a cursory examination of him could be made. There was general anasarca, *right* hydrothorax being especially noted. He was more or less cyanosed; suffered from extreme constant orthopnœa; the kidneys secreted but a small amount. The impulse of the heart was diffused; the apex-beat in the sixth interspace outside of nipple-line; loud systolic murmurs were noted in the mitral and tricuspid areas. The heart's action was irregular and rapid; the pulse rapid, small, and feeble. He was 58 years of age, had been an active business-man, a high liver, and a constant and immoderate drinker. The duration of the illness from the first cardiac manifestations was five years. Palpitation and dyspnœa were first noted. Œdema of the feet began two years ago. He never suffered from cardiac pain.

Post-mortem examination, forty-eight hours after death.—Rigor mortis marked; extremities and face blue; œdema of entire body; the right pleural cavity three-fourths filled

with serum; the portion of lung not collapsed congested; left lung oedematous and congested. The heart was enlarged, weighing twenty ounces. The coronary arteries of both sides were tortuous and rigid from atheroma; the veins distended. The walls of the right side were about one-eighth inch in thickness, pale and flabby, and were very fatty along the septa and in small areas over the surface. The right cavity was enormously dilated; the tricuspid valves were healthy, but incompetent, admitting the fingers and thumb. The walls of the left ventricle averaged three-quarters of an inch in thickness: they were contracted and of a natural color. The mitral valves were healthy, but incompetent, admitting three fingers. Both auricles were dilated. The aorta was dilated and atheromatous throughout its course. The liver was enlarged and congested. The kidneys were characteristic of cyanotic induration, and the right contained a cyst as large as a walnut.

Case II.—Mr. D., æt. 83. With the exception of being an inveterate smoker, habits very good. Although always industrious, he has never been a hard worker. Forty-one years ago he had typhus fever followed by a chronic leg-ulcer. The past fifteen years he suffered from cardiac symptoms. At first palpitation, frequent sighing, and paroxysmal cardiac pains were noted. The pains increased in frequency and severity, but he never had true angina pectoris. The attacks of palpitation gradually became severe when quiet, as well as on exertion. For three years past he had suffered from attacks of dyspnoea at night, the desire for air arousing him from sleep; while in the mornings, on account of a sense of weakness about the heart and of inability to get his breath fully, he would not be able to leave his room for a full hour. Even then he could not regain himself without taking some warm drink. He noticed that as his leg-ulcer tended to heal, or when healed entirely, his cardiac symptoms were more severe; while the more abundantly the ulcer discharged, the better did he feel.

My attention was first called to the heart when treating him two years ago for erysipelas. The pulse was 60, though the temperature was 102°. I noted then a feeble pulse, a fair impulse, a weakened first and a weak second sound. He again came under my observation three weeks ago, suffering from pneumonia of the left apex. Along with the apex-consolidation, the remainder of each lung was congested. The pulse was slow, moderately full and feeble, the impulse somewhat lessened in force. When the congestion of the lungs became marked, and the respiration much increased, the pulse-rate became higher, at one time reaching 126. During the attack he had Stokes-Cheyne respiration at irregular intervals, and the previously-noted cardiac symptoms were marked. He died of heart-clot.

At the post-mortem examination the lungs were in the condition above detailed. The heart was rather under-sized for a large man, and it presented to the naked eye all the appearances of fatty degeneration. It was pale and flabby, and there was a large increase of fat, especially along the vessels. Its texture was soft, and it contained heart-clots. The other organs were healthy.

The first case is of interest on account of the disease of the coronary arteries without cardiac pain, and on account of the dilatation and degeneration being more marked on the right side than on the left, without any chronic pulmonary disease. The mouth of the right coronary artery is smaller than that of the left, but not more marked than in health. Although in the second case there were all the symptoms of a fatty heart, save that the impulse was readily detected and the pulse was not markedly feeble, and although the macroscopic appearances correspond to such a heart, yet I am not prepared to say that it is a fatty heart. A microscopical examination will be made and reported. The pains, of course, were only those of a false angina; and I am inclined to lay some stress on excessive smoking as an etiological factor in causing a neurosis, not only cardiac, but involving respiratory nerves,—a pneumogastric affection.

Dr. MUSSEY said that these cases were of great interest, chiefly on account of their clinical histories being contradicted, as it were, by the autopsies. No microscopic examination had been made as yet to determine whether the "fatty" heart was really the subject of fatty degeneration or only of fatty infiltration. In this case with diseased coronary arteries no angina pectoris was noted, while in the other specimen *with healthy vessels* anginal pain had been a prominent symptom. A microscopic examination of the heart-substance would perhaps explain this apparent discrepancy.

Dr. F. P. HENRY thought it an interesting point that so much hypertrophy was coincident with such marked contraction of the nutrient arteries. He therefore would consider that the vascular stenosis was subsequent to the hypertrophy. For the production of cardiac hypertrophy at least two factors are essential, namely, a fair state of general nutrition and a patulous condition of the coronary orifices. Some time ago, Dr. Henry had shown two specimens to the Society illustrating these views. In one, the coronary arteries were enormously dilated, with great cardiac hypertrophy; while in the other, marked stenosis of those vessels was accompanied with a heart of normal size, the patient dying with extreme anginous symptoms. He would ask Dr. Mussey whether in the patient with hypertrophied heart the pulse was slow or frequent.

Dr. MUSSEY replied that the heart's action was rapid and intermittent.

Dr. HENRY said that Prof. Alonzo Clark, of New York, had pointed out that in embolism of the coronary arteries a *suddenly slow pulse* was almost pathognomonic. Such an observation would naturally raise the question whether, in cases of a more gradual occlusion of these vessels, any aid to the diagnosis of the pathological condition could be obtained from a study of the pulse-rate.

Abscess-sac attached to fang of tooth. Exhibited by Dr. J. B. ROBERTS.

There was no special history with this specimen, other than that of impending alveolar abscess, which had caused the sacrifice of the tooth. It well exhibited the early condition and starting-point of ordinary alveolar abscess.

A case of spontaneous atrophy of a tumor.

Dr. J. B. ROBERTS then made some remarks on an interesting case of atrophy of a skin tumor, which was probably of a fibrous nature and connected with a nerve. He had not observed this diminution in bulk himself, and had to rely upon the patient's statements, which, however, he had no reason to doubt were perfectly correct. The patient received, seven or eight years previously, a wound in the axilla which exposed the brachial plexus. Since then he has suffered from general pains, hyperæsthesia of the hands and feet, slight unsteadiness of gait, and difficulty after sitting in assuming the erect posture. The tumor had appeared on the shoulder a short time after the accident, and was very painful on pressure. A few weeks before Dr. Roberts saw him, the tumor suddenly commenced to grow smaller, until now it is reduced to probably a sixth of its original bulk.

Dr. FORMAD recalled the account of a case, recently read by him, where a uterine fibroid had rapidly disappeared after the removal of the ovaries, although the removal of the fibroid, when attempted, was abandoned, owing to adhesions, etc.

Dr. MUSSER pointed out that Dr. Formad's case was not very unusual, since oöphorectomy was nowadays recommended as a *cure* for uterine fibroids. He had, recently, a case of multiple sarcomatous tumors of the skin, following removal of the breast for a similar disease, in which one growth that had attained the size of a walnut finally entirely disappeared.

Dr. TYSON remarked that some of the members doubtless remembered a case, reported by Dr. Duhring as one of inflammatory neoplasm of the skin, which was finally determined to be of a sarcomatous nature, where rapid appearance and disappearance of the growths was repeatedly observed.

Dr. SMITH (*British Medical Journal*) reports several cases of lead-poisoning in weavers from handling yarn colored yellow with the chromate of lead.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

STATED MEETING, MARCH 2, 1882.

RICHARD A. CLEEMANN, M.D., in the chair.

MECHANICAL DILATORS IN GYNÆCOLOGICAL PRACTICE.

DR. CHAS. H. THOMAS had used the Ellinger dilator, and had been very much annoyed by a bad fault in the form of the blades. As soon as the instrument is opened, the uterus shows a strong tendency to slip away from the dilator. This is due to the form of the outside edges of the blades, which gives to the dilator a wedge shape, with a difference of ten millimetres between the measurements of the base and apex. Conicity in uterine dilators is a dangerous quality, the instrument tending to slip in the direction of the base of the wedge. If the dilator, when in use, slip out of the grasp of the cervix, it is likely to produce laceration; while if it slip inward, as most dilators tend to do, it will wound the fundus uteri.

Dr. B. F. BAER made the following remarks: "I am glad that Dr. Thomas has alluded to some of the defects of Ellinger's dilator. I have found the same objections, and have tried to overcome them by having an instrument so made that the mechanism by which the blades are separated is placed in the blades themselves, close to their points, and entirely concealed when they are in contact. This gives great power to a *small* instrument; and as the outer surfaces of the blades are perfectly parallel and cannot feather, because of the position of the separating mechanism, the instrument does not slip out. I do not now need a tenaculum to hold the cervix in place, which is a great advantage. I have also had the handles bent down, so that I can see just what the instrument is doing; and by a screw, so placed that it can be worked on the left with the left hand, whilst the right hand holds the handles and separates the blades, the dilatation can be done slowly and deliberately, with less tendency to slip out and with less pain than with the old instrument.

"With regard to the result of dilatation of the cervix for the cure of sterility, my experience is based upon the treatment, by dilatation with the steel instrument, of more than two hundred women who were sterile because of a defect in the calibre of the cervical canal, either from stenosis or flexion, resulting from imperfect development. Where the sterility was the result of obstruction, dysmenorrhœa was almost invariably present. This experience leads me to the conclusion that, although the canal is made so patulous by dilatation as markedly to improve the dysmenorrhœa, and in many cases to cure it permanently, the sterility remains in the vast majority of cases if the patient has been married more than

three years before coming under treatment; and if she had attained the age of twenty-six or twenty-seven years before marriage, then, though she come under treatment immediately afterwards, she will very likely be sterile. This will apply to the great majority of cases, but not to all. I think the reason may be stated as follows. The long-continued hyperæmia of the uterus, the result of dysmenorrhœa, which probably existed from puberty, and especially from the non-fulfilment of the sexual function by conception, gives rise to such changes in the histological elements of the uterus that, instead of the organ being muscular, and therefore possessing its natural resiliency, elasticity, and suction-power, it is hard, fibrous, and non-elastic. The mucous membrane lining the cavity also becomes so changed in its character that, if fecundation should take place, there is not a proper nidus furnished for the reception of the ovum, and it passes off without forming an attachment. The tissues of the Fallopian tubes are likewise changed, and the tubes narrowed in consequence. This might explain the persistence of the sterility after the dysmenorrhœa has been relieved by dilatation of the cervix."

Dr. J. C. DA COSTA had modified the El-linger dilator by having the blades made very stiff and with a knob at the extremity, as in the uterine sound. When necessary, he makes use of counter-pressure over the fundus. In some cases he uses a small instrument first to enable him to introduce the more powerful one through the internal os.

Respecting the statement of Dr. Baer as to the incurability of sterility of three years' standing, he had recently had under treatment a lady who had one child seven years ago, but had since been sterile. The uterus was sharply anteflexed. A dilator was used for the relief of the flexion, and three months later the patient exhibited all the early signs of pregnancy.

Dr. BAER remarked that this case was not one of the class to which he had alluded. This patient had had a child, and anteflexion—probably the result of subinvolution and endometritis—was the cause of the sterility. Failure occurs in cases which have never been pregnant, and in which the uterus is enlarged, hard, and changed in its histological character. He thinks it desirable to avoid multiplicity of instruments, and to have one dilator small enough to enter any os, and so arranged as not to yield to any pressure, but under all circumstances to preserve the parallelism of its blades.

Dr. THOMAS thought that one reason why the sponge tent did good work was because it worked slowly and continuously. Four years ago he made drawings of a modification of the steel dilator to accomplish the same end. The instrument was made somewhat shorter than the ordinary one. The blades

were absolutely parallel on the outside edges, and were approximated by means of a screw passing through a slot in one handle and attached to the other. A milled head traversed this screw, and between it and the handle of the dilator was placed a spiral spring or a soft-rubber pad. This instrument was intended to remain *in situ* for twenty-four hours, the spring making the action gradual and continuous, one or two turns of the screw being given every two hours by the doctor or a nurse properly instructed. The doctor thought that in this manner he could secure many of the advantages of the sponge tent and at the same time avoid its dangers.

Dr. R. P. HARRIS had recently seen, in a foreign journal, diagrams of a very neat instrument to accomplish the same purpose. It consists of a C-shaped spring, to the ends of which are attached blades long enough to pass through the internal os. The fingers pressed upon the top and bottom of the C closed the instrument for insertion. Its action would be regulated by the strength of the spring. To obviate the danger of slipping too far into the uterus, a dilator with diverging blades could be furnished with shoulders to rest against the cervix. The divergence of the points of the blades he considers an advantage. The feathering reduces the apparent divergence in use, and that which remains helps to retain the instrument in place, particularly if the blades are furnished with shoulders. The dilating power is strongest where it is most needed, at the internal os. To meet an objection advanced by Dr. Thomas, he suggested that the shoulders might be made movable to suit uteri of different depths. In every case in which a dilator is used, the patient should be kept in bed until the direct effects are over.

He had recently under observation a case of dysmenorrhœa in which the dilator was used without effect, but in which a sponge tent effected a cure.

Dr. BAER thinks that the blades should be parallel and that dilatation should be uniform, without regard to the point of greatest constriction. Too much should not be expected from the dilator. A case of dysmenorrhœa could not be cured by one treatment. It is by the repeated use of the dilator at proper intervals that the best results are to be secured. As an instrument, it replaces a set of graduated sounds, and the original inventor must have had that object in view. The contractility of the uterus must be overcome gradually. Even where tents are used, contraction will recur. The advantage of the dilator lies in its comparative freedom from danger and in being less troublesome to the physician. It is indicated whenever there is constriction from any cause; for if there is not good drainage for uterine discharges there will surely be irritation, resulting in endometritis.

The effect of the dilator on hypertrophy is the same as with sterility. If of long standing, it is not curable. After the hard, fibrous stage is reached, no reduction results from its use; but if the condition is recent and the enlargement is of the muscular elements or is due to engorgement, a cure may be secured, because here we have nearly the same condition which exists after labor,—viz., a muscular uterus having the power to contract and involute. I do not believe that chronic hypertrophy of long standing will, as a rule, yield to any treatment; but the symptoms to which it gives rise can be relieved to a very great degree in most cases.

Dr. ALBERT H. SMITH regrets that Dr. Baer has not seen the admirable effects of the sponge tent on uterine hyperplasia. If you use a steel dilator in the uterus, it can remain but a very short time,—practically not more than five minutes,—giving a sudden mechanical dilatation accompanied by probable rupture of the hardened fibres of the cervical canal; but it cannot give that stimulation to the contractility of the uterine muscles and to cell-action that results from the use of the sponge tent when no inflammatory action is existing. There is great resistance at first, but after the lapse of forty-eight hours the internal os and uterine walls have relaxed, spasmodic contraction ceases, and the vital power and muscular contractility of the uterus are developed by the presence of a foreign body which the natural powers will try to expel. Just as you have after the expulsion of an ovum a physical atrophy of the uterus, so you will have a similar action set up by the presence of a sponge tent in the cavity of the uterus. No such result could be secured by the use of a steel dilator. The latter must lacerate and leave surfaces ready to absorb septic matter, while you have not the advantage of the presence of the salicylic acid or other disinfectant present in the tent. The latter, expanding slowly, is not likely to cause laceration. The too early removal of the tent, while the spongioles are fast in the uterine tissue, may leave an abraded surface; but after forty-eight hours the tissues have shrunk away and the sponge comes away easily. Dr. Smith read the following letter from Dr. Mundé:

"MY DEAR DOCTOR,— . . . Remembering your remark with regard to the absence of proper dilatation of tupelo tents, I procured a number from Tiemann & Co., and dilated them in tepid water. I send you by this same post four different sizes, dilated and undilated, and also two perforated zinc-lined tents, to be worn during the period, for dysmenorrhœa,—one before, the other after, dilatation.

"This amount of dilatation was reached within one hour. Certainly no fault can be found with the expansion of these tents, since it will be seen on comparison that all the tents have swelled to fully double their compressed

size, and have retained their expansion on being dried. It may be objected that this full dilatation would probably not take place if a resistance were offered as in the uterine canal. While I partly admit this, still I have within a month had reason to use the largest size to dilate a uterus, and secured quite as much expansion as shown by the accompanying tent. The softness of the wood allows of their being whittled to any size and shape.

"I also send a tent dilated in utero, which shows some contraction at the site of the internal os.

"I presume that the failure of your tents to dilate may have been due to their having absorbed moisture from the atmosphere. They should always be kept wrapped in air- and water-tight paper. Tiemann & Co. tell me that all their tents are compressed to their utmost by machinery.

"As for the other forms of dilatation, I have used the steel two-branched dilator of Ellinger almost exclusively. I found it too difficult to force the graduated hard-rubber sounds through the cervix if it is virginal and hard; the tenaculum tears out, and the force is too great. I have dilated in hospital and private practice (with two-branched dilators) in about one hundred and fifty different cases, probably some six to seven hundred times, chiefly for dysmenorrhœa and sterility, always in my office or dispensary. I have almost invariably relieved the dysmenorrhœa, temporarily at least; the sterility but rarely, although my later statistics on this point are meagre. I have but one bad result,—pelvic peritonitis; and then curetting and tincture of iodine to the endometrium were also employed, either of which might be blamed. I prefer steel divergent dilators for temporary, tupelo tents for permanent, results. Slippery-elm tents dilate but little; but I have found them good in dysmenorrhœa to render the canal patent."

Dr. R. P. HARRIS is using cylindrical sponge tents coated with salicylic acid, and finds that it has a local anæsthetic effect on the lining membrane of the uterus.

Dr. A. H. SMITH, of the steel dilators which he has tried, prefers the instrument devised by Dr. T. G. Thomas, in which the blades are separated by being drawn into a canula by screw-action. It is, however, difficult to clean. He has found the handles of Dr. Ellwood Wilson's dilators very much in the way when the uterus is anteflexed.

Dr. BAER remarked that he was much instructed by Dr. Smith's remarks. He was surprised at the time—forty-eight hours—that a sponge tent could be allowed to remain, and at its effect in the disintegration of abnormal tissue without the development of septicæmia. He finds it hard to believe a change could ensue after the uterine walls had been changed to hard fibrous tissue; but experience is the best teacher.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held March 17, 1882, Dr. FORDYCE BARKER, President, in the chair.

After the reading of the minutes of the previous meeting by the Secretary, and various committees had handed in their reports, the President introduced Dr. H. G. PIFFARD, who exhibited one of Dr. L. P. Felton's medical batteries, which had formerly been presented at the New York State Medical Society, and which was described in the *New York Medical Record* for February 4, 1882.

The President then introduced Dr. FRANK H. HAMILTON, the author of the scientific paper of the evening, entitled "The Struggle for Life against Civilization and Æsthetics: a Supplement to the Discussion on Plumbing, etc."

Referring to the meeting of the Academy on February 2, 1882, the author reviewed the introductory remarks of the President, then Mr. Wingate's paper on "Practical Points in Plumbing: Knowledge necessary for Physicians for the Protection of their Patients;" and the discussion which followed, pointing to the general agreement of all with regard to the evil influences which sewer-gas has in the promotion of, if not itself positively originating, many diseases which afflict the inhabitants of our cities; to the defects in our present plumbing-work, and to the necessary destruction thereof in time by the chemical action of the gases, etc., constantly in contact with them; to inefficient ventilation due to the present methods of heating our houses, etc.; criticising, as he proceeded, the inefficiency of the methods proposed by the speakers for the removal or the avoidance of the existing evils, and in some instances their conflicting statements regarding points of a scientific nature. Was it surprising, the author said, that, considering the deadly nature of these gases and the impracticability or the inefficiency of all or nearly all of the measures for their exclusion, Dr. Parker hesitated to accept Mr. Wingate's suggestions, believing that it was foolish to take the risks to health from modern modes of plumbing, and that he declared, at the close of the discussion, that if he were to build a house he would not have it connected in any way with the sewer?—that he would have all the closets and drains and pipes in an annex? Such, too, was the conclusion at which many of our most wealthy physicians had arrived; and not a few of our best mansions were built on that plan. What, then, was the upshot of all this matter, if the sanitary engineers, the plumbers, the chemists, and others who took part in the discussion had nothing more to suggest? With all respect to those distinguished gentlemen, he did not think they had suggested anything new,—anything, indeed, which had not been tried before and which had for one reason or another proved impracticable or inefficient. His reply to these questions was that with

reference to these matters science had not kept pace with civilization, and there was at present no adequate remedy. We had had occasion to observe that when men left the open plains and small hamlets and crowded into cities the ratio of sickness and death was increased. Civilization in cities having deprived us of a large proportion of our oxygen, the plumbers had at last rendered actually poisonous what remained, by connecting almost every room in our houses, directly or indirectly, with the sewers. Our water was not free from these gases and the fatal germs generated in these foul places. Dr. Parker thought he had never seen a case of diphtheria in this city until Croton water was introduced. Possibly nothing would more forcibly illustrate the magnitude of the evil we were considering than the fact that it had given birth to a new profession,—namely, sanitary engineers, who were supposed to be well informed in matters of hygiene, architecture or house-construction, and engineering, and who seemed to find plenty to do, and no doubt were performing a much-needed and very useful service; but he might add that up to the present time there was no evidence that they had done any more than to mitigate the evils which they were asked to remove. Indeed, there might be found many a notable example in which the best sanitary engineers had failed to effect even a mitigation.

In order to render the atmosphere of our houses free from sewer-poisons and make it pure and bring the health of our citizens up to its proper standard, civilization must make some concessions. He used the term civilization in its widest sense, including the luxuries, comforts, and æsthetics of life. If concessions were not made, he feared we should not be able to contend successfully with typhoid fever, diphtheria, etc. Unto this end, he believed that all plumbing-work would have to be excluded from those portions of our houses which were habitually occupied, to centre in a separate building or annex; second, that we return to the open fireplace or grate as a means of warming our private houses; third, that there should be a diminished consumption of oxygen by gas-burners. It was still an open question whether we should be able to light our dwellings with electricity; but so long as we were obliged to depend upon gas we must content ourselves with light and not insist upon illumination. The concessions mentioned admitted of no compromise; but there were numerous other sources of decay incident to civilization, such as the exclusion of the wholesome sunlight from the apartments of the wealthy and others, to prevent the fading of carpets, etc. Fashion and civilization demanded that both children and adults should devote the hours which ought to be spent in sleep to amusements which were rendered the more pernicious by prolonged respiration of hot and poisonous air.

Utility and regard for health were made almost completely subservient to fashion in dress. Clumsy head-dresses, low necks, short sleeves, tight corsets, high heels, and narrow toes did not constitute the sum total of æsthetic requirements of civilization for dress. Walking was rendered difficult, and sometimes it was impossible to run or even move with rapidity; and sharp angularity was unseemly in young ladies. The tall young man, as he moved in the most refined and polished circles, posed in attitudes which demanded the most feeble exercise, or dawdled in effeminate dissipation. Ladies did not sit, but reclined, in their carriages. In the best society there was no muscle or backbone. Almost all respectable citizens rode when they might walk, and complained of want of breath when the absence of an elevator compelled them to ascend a stairway. We travelled in badly-ventilated, crowded cars, and were sick on reaching the end of the journey. Railroads had enabled men to accomplish much more by their rapid transit, but it was a question whether this compensated for the health and length of life which were foregone in part on putting aside horseback and stage travel. The field opened for discussion by this paper was wide and inviting, but he would request the Society to limit its remarks to household sanitation.

DISCUSSION.

Dr. DOREMUS again explained and demonstrated, as at the former meeting, how gases permeate brick and stone and are dissolved more or less by water. Notwithstanding his demonstrations, the President of the Board of Health asserted that it was not true; in other words, that good sound plumbing, with good traps, was a safeguard against the passage of these gases into our rooms. Every one was familiar with the chart on the wall, which showed that all gases were to some extent soluble in water, and Dr. Doremus said that unless we employed some chemical which decomposed these gases it was impossible that our pipes, dipping down into the sewers, should not allow the gases to enter our rooms. But by using some material which by chemical action destroyed or decomposed these gases we likewise destroyed the germs which might be present at the same time. At the President's request, Dr. Doremus went on to explain what he considered to be the cheapest and most effectual method of effecting the decomposition of the gases in the pipes, etc. The manganate of soda and the sulphate of magnesia were very cheap, and had been used in the water-closets at Bellevue Hospital. A very cheap substance recently devised was the chloride of zinc. It would be well to put a spoonful of some of these substances into the water-basin whenever used. An arrangement might be devised by which, when the water was turned on in the closet, some of the chemical would also enter.

Dr. BILLINGS, of the United States Army, having been invited to be present at the meeting, arrived late, but in time to hear the latter part of the paper. He said he was unable to tell beforehand from its title what was to be its nature, and was little prepared to make remarks. While he agreed in general with what he had heard read of the paper, he thought it took rather too gloomy a view of the possibility of dealing with the causes of diseases that were incident to modern civilization, and more especially with those causes which were incident to modern dwelling-houses in large cities. First, as to plumbing and getting rid of the excreta: while it was perfectly true, as Dr. Doremus had demonstrated, that the gases were absorbed by the water in large quantities, and would be given off on the other side of the trap or water-seal, it must not be forgotten that these gases were not present in the air and the soil-pipe in such proportion as they were in the flasks before us. Experiments had been made demonstrating the amount of gas generated in one of these pipes both while it was open above and while closed. In the first case, during four hours the amount collected was scarcely appreciable; in the second, the amount was about trebled. This experiment was made in a house which was supposed to have a very foul soil-pipe. When free communication with the air above existed, and a trap shut off communication from the interior of the house, the amount of dangerous gas generated in the pipe was so exceedingly small that it was not worth while to take it into consideration. As to the question of the danger of these gases to health, a line of distinction was to be drawn. Some parties went so far as to say that the gases were not at all dangerous to health. He believed it was extremely probable that what we call specific, infectious, contagious diseases were not produced by the ordinary gases which arise from the decomposition of organic matter, whether that matter be animal or vegetable. If diphtheria, scarlet fever, etc., could be produced by gases arising from decomposition of animals, or decaying vegetable matter, under almost any conceivable conditions of temperature or moisture, it was impossible to explain why these diseases were not constantly present in such places as the large cities of India and China, for example. It was impossible to explain why they should be more prevalent with us now than they were fifty years ago, if they do not confine themselves to the cities. It was probable that these diseases were due not to gases, but to minute particles, which were not gases or liquids. He did not like the term sewer-gas, but preferred to say gas from sewers, as this might be composed of several, or vary under different conditions, according to what the sewer contained, etc. But it was going too far to say that these gases could not cause disease,

as seemed to be the tendency among some sanitarians. Constant exposure to sulphuretted hydrogen, for instance, would cause disease, as was proven in the experience of workmen employed where it was generated. While foul gas did not produce a specific infectious disease, it did, nevertheless, affect the tone of the constitution, and predispose the animal economy to breaking down on the first appearance of the immediate cause of the specific disease. This was evident from the fact, as proved by experiment, that if the most dangerous gas known were diluted sufficiently it would have no appreciable effect upon the health; whereas minute particles of specific contagia were dangerous when diluted, and produced the specific disease in its original severity. Reference was made to experiments with vaccine matter, which, when highly diluted, though it sometimes failed to take, when it did take produced effects similar to those produced by the undiluted matter. In the matter of ventilation, since foul gases highly diluted were not dangerous to health, that was the object sought for. It was almost or quite impossible to obtain perfect ventilation of buildings, which would imply our breathing no particle of air which had been inhaled by others in the house. To attain this end involved trouble and expense which none but the government could meet. What was attempted in the way of ventilation was simply to dilute the foul air with pure air. The practical difficulty did not seem to consist in the proper arrangement for ventilation and other health-conditions of a single house, but how to enable each householder in a city who was intelligent, and desirous of obtaining health-conditions, to secure the services of individuals who knew how and could be trusted to do work properly. It was well known that many of those who professed to know how to do work fulfilling these conditions, either unknowingly or knowingly, made a failure.

The author of the paper seemed to take the ground that we should have to go back to open fireplaces, and that, on the whole, we were, as a race, deteriorating from the effects of civilization. It seemed to be the general opinion that the children of nature, those people who live in the open air, are very much healthier as a people than we who live in cities. Statistics, however, so far as they went, did not prove such to be the case. Among the Indians, on the contrary, the death-rate was decidedly greater. He was of opinion that the statement made, that we should have to go back to the open fireplace, was, upon the whole, made without sufficient reflection as to what that would imply, and a consideration of the means which we have of sufficiently ventilating our houses if we chose to make use of it. But it would cost more,—from two to ten times as much; larger heaters would be required than were commonly used;

we must not seek to get more heat by raising a small surface to a higher temperature; nor in regulating the amount of heat should we be allowed to cut off the air by which our rooms are ventilated. We could not have good heat, good ventilation, and cheapness: we might have any two of them, but we could not get the three together. The problem, therefore, was, not the possibility of securing proper plumbing, the removal of excreta, etc.; that was all possible; but it was to secure a method by which a man of moderate means could obtain the services of one who had the skill and the honesty to do it. We had plenty of sanitary engineers, so called, but those in the country who were thoroughly competent he could count on his five fingers. Men must be educated to the calling, because they found their services appreciated; the demand must be created, and when this existed men would be forthcoming to fill the place. The medical profession must be the leaders and teachers of the public in this matter: make a demand on the part of the people for sanitary conditions; then through the Legislature have proper laws passed regulating plumbing and building. Unto this end the physician must have some knowledge of the sanitary engineer's business, and the sanitary engineer must be well instructed in hygiene, physiology as it relates to health, and much knowledge which is generally supposed to be confined to the physician's learning. Physicians should understand the importance of going slow in making assertions, founding them upon well-established facts, lest they be carried away upon the wave of sentimental opinion, and afterwards a reaction come and they reap discredit instead of honor. The medical profession of a town or city at times admitted the unhealthy condition of their homes; but if it were mentioned by those abroad, or those belonging to neighboring towns, who might have rival interests, it was said to be done with an object for commercial purposes, and the profession were then too apt to defend the sanitary condition of their respective cities, regardless of the true state of things, instead of having the sole object in view, the improvement of the health of the people. The whole subject was a very wide and complicated one, and could not be fully considered on a single evening.

Dr. H. SMITH said that the water in our pipes was almost constantly changing, which prevented the absorption of any great amount of gas; this fact also militated against the possibility of disinfection by chemicals. The fact that plumbers, who, as it were, lived among these gases, were not greatly subjected to typhoid fever and zymotic diseases, would tend to show that less danger to health arises from such gases than some would have us believe. With reference to leaks in waste-pipes, he thought they might be discovered in the way

they were discovered in the water-pipes,—namely, by placing a cock below in such waste-pipes, and from time to time filling them with water, when if a leak were present it would become manifest. He thought it unnecessary to have an annex into which all the waste-pipes, etc., should be carried, apart from the regularly-occupied rooms; let all be connected with a shaft which had free ventilation above, as was the case in his own house, and it would answer an equally good purpose, and allow us to retain all the conveniences pertaining to the present system.

Dr. HAMILTON, being called upon to close the discussion, said that if he appeared before them in the light of a pessimist, he thought his friend Dr. Billings must have appeared in the light of an optimist. The latter had questioned the character and malignancy of those poisons and germs which we had generally believed to come from the sewer; and he believed that there were always measures at our hands adequate for their exclusion. He found that the gases in the pipes were trivial in quantity, provided they had an appropriate escape through the soil-pipe; he found that the amount which under any circumstances might be admitted into our rooms was not likely to produce any pernicious effects. He said that medical men determined facts chiefly by probabilities, and did not absolutely and dogmatically affirm. It seemed to Dr. Hamilton that if anything were probable it was that sewers contained poisons, and generated poisons, and not only so, but that they conveyed poisons, whether generated there or not, which were capable of producing certain diseases, specific or not. If there were a means of making the pipes so secure that these poisons could not escape from them into the room, the question still remained, how could we prevent those pipes from going into a state of decay and unexpectedly overflowing us with their impurity? Was not disease of the character which we had always attributed to these poisons increasing? "They say they have suggestions to make which ought to be tried; but have we not been trying suggestions during the past generation until that generation is dead? Shall we continue to try suggestions, or recede somewhat until Dr. Smith and Dr. Billings have tried their own suggestions successfully? Is it not time for us to stop experimenting awhile until we try to find out a way of being in a more healthy condition by the abnegation of these supposed sources of debility and disease? Dr. Billings said that we need not return to the old fireplace method if we would spend five times as much money to heat our homes; but I cannot afford it, and I presume the majority of those present cannot afford it. The gentlemen have not suggested anything better to-night than had been done on the previous night."

Dr. JANEWAY wished to say a word with

regard to Dr. Hamilton's statement that sickness and the death-rate were increasing. That was a question which must be looked upon from different points of view, in order to get at the truth. The death-rate from a given disease and the general death-rate might be greater this year than last, and yet the sanitary conditions of the city might be better this year than the previous one,—a fact to be accounted for by the tendency of certain diseases to exist epidemically or endemically at certain times, depending upon other conditions than bad sanitation, and by other reasons. Such sources of error might be avoided, to a large extent, by comparing the past ten years with the ten years previous. The death-rate this year in New York City was greater than last year, and some might ignorantly suppose, therefore, that clean streets had not a tendency to ward off disease and increase the average duration of life, or even say that clean streets caused a greater prevalence of disease and a greater death-rate. This, however, was to the intelligent citizen evidently an error. "Physicians know that it is due to overcrowding from our rapidly-increasing population, to the foothold which certain contagious diseases have acquired, etc., and not because the streets are cleaner. The small-pox epidemic which the newspapers say is prevailing in South Bethlehem, Pennsylvania, at present, cannot be due to bad sanitation, for it spread very widely, and among those in the healthiest neighborhoods, in two days, which was evidence enough that it was introduced perhaps by the presence of an unobserved mild case in that particular part of the town, or was due to the fact that a large number of this better class attended the funeral of one who died of smallpox, or to some other similar cause." He would challenge any physician to prove that a single case of, for instance, smallpox or scarlet fever had originated from bad sewerage or gas from pipes. If it apparently or really came by that channel, it would be found, on diligent search, that it first originated in the same disease affecting another person. We seemed to have pretty conclusive evidence, however, that typhoid fever sometimes originated in the condition of the sewerage, and perhaps the same was true of diphtheria.

In illustration of his statement that proposed changes in favor of sanitation by sanitary engineers, when carried out, had not usually improved matters, Dr. Hamilton referred to the case of Memphis, whose sewerage system, etc., was altered in accordance with the plans of Colonel Ware, but the next year, and afterwards, the death-rate and sickness had been greatly increased.

Dr. BILLINGS explained that Colonel Ware's suggestions were carried out only in part; that the system was completed by the officials of the city, who, instead of having the sewers empty into the Mississippi, as proposed by

Colonel Ware, had them empty only a short distance below the source of water-supply, and into the same stream from which this was derived, so that the two waters, when the stream rose, were mixed: hence their great amount of consumption and general sickness. By this change in the proposed method the citizens saved five hundred dollars!

After hearing certain reports, the Academy adjourned.

REVIEWS AND BOOK NOTICES.

LECTURES ON ELECTRICITY (DYNAMIC AND FRANKLINIC) IN ITS RELATIONS TO MEDICINE AND SURGERY. By A. D. ROCKWELL, M.D. New York, Wm. Wood & Co., 1881. Pp. viii., 122.

These lectures, originally published in the *Virginia Medical Monthly*, were intended to give in a concise form the status of electro-therapeutics as then existing, and in this the second edition of the book the subject has been brought up to date by the consideration of static electricity,—a long-forgotten yet nevertheless extremely valuable form of electro-therapy. It is to be hoped that the reaction in its favor at present existing will not be spasmodic or transitory, but that study will be given to this department of electricity under the improved methods we now possess of generating it. The writer has found it to be indispensable as a part of his ordinary outfit. The eight chapters are well-condensed expositions of electro-physics, physiology, diagnosis, surgery, and general medical application, with a thorough description of the various forms of apparatus employed; and, as would be expected from the distinguished author, particular stress is laid upon the value of *general faradisation* and *central galvanization*, neither of which methods has been well understood or properly appreciated by the profession at large, or, indeed, by electro-specialists. That general faradization is indicated much more frequently than it is employed is beyond question, and that a wider appreciation of its absolute tonic effect is desirable cannot be doubted. It is therefore to be hoped that this little work will stir up electro-therapeutists to a better comprehension of the fact that electricity in all its forms is something more than a mere stimulant or sedative. A description of the latest novelties in electricity closes the book,—the induction-balance and the storage-batteries of Trouve and Plante. The probability of the latter overcoming the defective working inherent to galvanic-caustic batteries is worth noting. Illustrations are freely used, all of which are good. The mechanical execution of the book is excellent, and the work, though unpretentious, is full, explicit, and readable. It well deserves a place on the shelves of every phy-

sician and surgeon who desires to understand the value of electro-therapeutics,—an indispensable part of his armamentarium.

W. R. D. B.

GLEANINGS FROM EXCHANGES.

CELLS CONTAINING RED BLOOD-CORPUSCLES.—Dr. Osler, of Montreal (*Lancet*, February 4, 1882), says that he has noted the occurrence of cells containing red blood-disks in the lymphoid marrow of the bones of pernicious anæmia, "in three cases very abundant, in two in moderate numbers. An examination of the marrow in over seventy-five persons of all ages and dead of various diseases has led me to conclude—1st, that cells containing red blood-corpuscles are normal elements in red marrow; and, 2d, that it is impossible to connect their presence with any particular disease. I have found them very numerous in cases of phthisis (2), pneumonia (1), typhoid fever (2), ulcerative endocarditis (1). They were present in the marrow of a foetus at the sixth month, and in that of the sternum of an old man of seventy-six. I do not remember ever having any difficulty in demonstrating them to students in the ordinary red marrow of the rib. Litten and Orth* speak of these cells as occurring in a considerable proportion of the cases which they examined, and they also could not connect their occurrence with any special set of conditions. As in the spleen, they present remarkable variations in number, in some instances being scanty and difficult to find, in others so abundant that each field of the microscope contains several examples. On the structural peculiarities and development of these cells I will not here dwell further than to say that each one may contain from one to ten or twelve red corpuscles, which may have a perfectly natural appearance, or be in every stage of transformation into brown pigment-grains. I have notes of the occurrence of these cells in the following localities:

"1. In the connective-tissue cells of the embryo and new-born animal. Here, in all probability, the red corpuscles are in process of development (Schäfer).

"2. In red marrow, of which they form a normal constituent, but, like the myéloplaques, occur in very variable numbers.

"3. In the spleen pulp, normal element (Kölliker), they are particularly abundant when the organ is rich in pulp, as in the acute swelling of fever.

"4. In lymphatic glands when in a state of congestion and tumefaction; not a constant feature, but sometimes very numerous.

"5. In brown induration of the lungs, part, at any rate, of the pigment in this condition results from the ingestion of red corpuscles (which leave the engorged vessels by diapedesis).

* Berliner Klin. Wochenschrift, 1877.

desis or extravasation) by the cells of the alveolar stroma, in which they gradually undergo transformation into brownish-red grains.

"6. In the neighborhood of extravasated blood the connective-tissue cells, fixed and amœboid, are often found to contain red blood-corpuscles, which can be traced in all stages of degeneration into pigment-granules.

"Artificially, I have seen these cells produced by feeding lively white blood-corpuscles of the newt or frog with human red blood-corpuscles. I have a sketch of a colorless blood-cell of the newt distended with four red corpuscles which it had eaten."

SCHIZOMYCETES, OR MICROBES.—The recent introduction into medicine of a number of new terms, springing out of investigations into the origin of certain diseases which are likely to be frequently encountered, makes it important that definite meanings should be attached to them by those who employ them, in order not to be misunderstood by those who hear them. The *Popular Science Monthly* gives the following classification of Mr. W. Hamlet of the microbes (microscopic organisms of fermentation and disease). 1. Microbes which appear as points are called *monads*, *monera*, or *micrococci*. They are motionless, and may be regarded as the spores of other microbes. 2. Motionless linear microbes,—the *bacteridians* and the *bacilli*. To them belong *Bacillus anthracis*. 3. Cylindrical mobile microbes, having rounded ends or contracted in the middle so as to form an 8, are the *bacteria* proper. Among them is *Bacterium termo* of putrefaction, the commonest of all. 4. Flexuous mobile microbes. They look and act like eels, and differ but little from the equally active bacteria. They are the *vibrios*. 5. Spiral microbes, resembling a corkscrew, and mobile,—*Spirilla spirochæta*. Their presence in human blood appears to be connected with intermittent [relapsing—Ed.] fever. 6. Microbes with heads, very active, having globules larger and more refractive than the rest of the body at one or both ends. These globules are apparently spores ready to be detached from the bacterium,—*Bacterium capitatum*. Besides these six principal states, the microbes form agglomerations or colonies that often notably change the aspect of the elementary cells, and which have received various names. Agglomerations in microscopic masses, surrounded by a jelly that sticks them together and deprives them of motion, are called *sœglæa*. A non-gelatinous membrane formed of motionless bacteria is a *mycoderma*. Bacteria attached end to end in a string form filaments of *leptothrix*. A number of spherical micrococci joined one after another form the string of round grains called a *torula*. A considerable number of species may be included in each of these divisions; and there does not appear at present any way of distinguishing by sight a disease-producing bacterium from a harmless one.

FORMATION OF HYALINE TUBE-CASTS.—

In an article on the "Histological Lesions of the Kidney in Albuminous Nephritis," by V. Cornil (*The Practitioner*, February, 1882), the morbid changes in the kidneys in albuminous nephritis are studied by the aid of pathological specimens obtained from a case occurring spontaneously in man, by which, also, the mode of formation of hyaline cylinders is demonstrated. The patient had an attack of acute Bright's disease after exposure to cold. Death, preceded by anasarca and uræmic coma, occurred seven weeks later. Post-mortem examination of the swollen, injected kidneys demonstrated very plainly the rôle of the renal cells in the production of intra-tubular exudation. A vacuole filled with liquid first forms in the interior of the epithelial cells, which projects; then the wall of the cell breaks, and a little drop falls into the cavity of the tubule. "These clear or granular globules are observed in greater or less quantity—i.e., in a greater or less number of urinary tubules—in every case of albuminuria." The chemical nature of these globules does not appear to have been as yet perfectly determined. Besides these, the exudation is composed of red blood-corpuscles, leucocytes, and blood-serum, the latter constituents being more manifest in these glomeruli. "The farther these different parts of the exudation pass on from the place where they have been poured out, the more do they become mixed into a homogeneous mass,—liquid at first, and then dense and colloid,—which coagulates. Such is the origin of hyaline casts. . . . The narrow parts of the tubule which compose Henle's loop form a kind of wire-drawing apparatus, and as the colloid coagulum passes through them it is drawn out like a thread, taking a regular form, which it preserves in the wide intermediate convoluted parts of the tubule and in the straight tubule. These are veritable hyaline casts."

NITROUS OXIDE GAS AS AN ANÆSTHETIC DURING LABOR.—Dr. Klikowitsch, of St. Petersburg, advocates (*Archiv für Gynaekologie*) the use of nitrous oxide during parturition. The high cost and the want of portability of the apparatus for administration, however, will prevent its use to any extent in midwifery, for which it otherwise possesses obvious advantages.

TETANUS SUCCESSFULLY TREATED BY CHLORAL AND BROMIDE.—Dr. J. W. Salter, in *The Practitioner* (p. 99), reports a case of traumatic tetanus in a man 51 years of age, successfully treated with large doses of chloral and bromide, administered in doses of ten or fifteen grains, sometimes every half-hour, but usually every two hours,—occasionally at longer intervals. The total amount given in the twenty days of treatment was sixty drachms of chloral and eighty drachms of bromide, or three and four drachms per diem respectively.

MISCELLANY.

ACCORDING to official reports, 21,990 people were killed in 1880 by wild beasts, 19,150 deaths being from snake-bite.

PUERPERAL INFECTION IN THE MALE.—I see an extract from the *Centralblatt für Gynækologie* copied in several medical journals in regard to a case of fatal puerperal infection of the male, in which the husband had intercourse with his wife after it was supposed she had entirely recovered from an attack resembling puerperal fever. During an epidemic of puerperal fever which occurred in Nelsonville a few years since, my brother, Dr. D. Lod. Gilliam, now of Columbus, Ohio, and myself were attending a colored woman who had an attack of what we diagnosed as puerperal fever. One morning, after she had begun to convalesce, we noticed some bad symptoms, and on inquiring she told us that her husband had insisted on having intercourse with her, and, she being too weak to resist, he had accomplished his desires. She made a good recovery in course of time, but her husband was attacked two or three days after the occurrence we have related with erysipelas of the penis and scrotum, followed by gangrene and extensive sloughing of the parts, and died on the sixth day with well-marked symptoms of septicæmia. He acknowledged to having had intercourse with his wife, and attributed his disease to that. Some weeks before his sickness he had been under treatment for gonorrhœa; but I do not know whether he had recovered at the time of his sickness. If not, probably that might have been the cause of his infection.—CHAS. F. GILLIAM, M.D., NELSONVILLE, O.: *Detroit Lancet*.

THE Supreme Court of Pennsylvania has decided that a professor in a college is merely an employé, and not an officer: hence he can be discharged at any time without more formality than is used in getting rid of a cook or a clerk. The decision was rendered on the occasion of the discharge by the corporation of Lewisburg University of the professor of mathematics and natural philosophy.

DR. THOMPSON (*British Medical Journal*) treated three cases of tetanus, with two recoveries, by the hypodermic use of one-sixth of a grain of extract of physostigma.

DRS. LEPINE AND GUÉRIN state (*Revue Médicale*) that there is an excess of unoxidized sulphur in the urine in cases of disturbance of the biliary function.

DR. CLUBBE (*Lancet*) treated successfully a case of diabetes insipidus by faradism over the kidney employed every day for about twenty minutes for twenty weeks.

To dry up the flow of milk, Dr. Martin (*Medical Times and Gazette*) covers the breast with freshly-picked parsley-leaves, which are renewed several times per day. They act speedily and effectually.

DOLARINA AS AN ANTHELMINTIC.—This is an alkaloid extracted from a species of fig,—*Ficus dolaria*. It is regarded in Brazil as of value against the helminthoid which produced the St. Gothard Tunnel epidemic. Dr. Buzola (*Gazette des Hôpitaux*) has given it in powder form with good results to the laborers attacked by this particular parasite.—*Chicago Medical Review*.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MARCH 5 TO MARCH 18, 1882.

ALEXANDER, R. H., MAJOR AND SURGEON.—Now awaiting orders, to report in person to the Commanding General, Department of the Missouri, for assignment to duty. S. O. 52, A. G. O., March 6, 1882.

BROWN, H. E., MAJOR AND SURGEON.—Having reported at these Headquarters, will proceed to Jackson Barracks, La., and report to the Commanding Officer for duty. S. O. 32, Department of the South, March 14, 1882.

DICKSON, J. M., CAPTAIN AND ASSISTANT-SURGEON.—Now awaiting orders, to report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 52, c. s., A. G. O.

LAUDERDALE, J. V., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in the Department of the South, and to report in person to the Commanding General, Department of Dakota, for assignment to duty. S. O. 52, c. s., A. G. O.

FINLEY, J. A., CAPTAIN AND ASSISTANT-SURGEON.—At expiration of his present leave of absence, to be relieved from duty in the Department of the East, and to report in person to the Commanding General, Department of Texas, for assignment to duty. S. O. 52, c. s., A. G. O.

PORTER, JOSEPH Y., MAJOR AND SURGEON.—Granted leave of absence for one month, with permission to apply for an extension of one month. S. O. 32, c. s., Department of the South.

GARDNER, EDWIN F., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the President of the Medical Examining Board, in session in New York City, for examination for promotion, and, on its conclusion, to report by letter to the Surgeon-General. S. O. 52, c. s., A. G. O.

ROBINSON, S. Q., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the President of the Medical Examining Board, in session in New York City, for examination for promotion, and, on its conclusion, to report by letter to the Surgeon-General. S. O. 52, c. s., A. G. O.

The following-named officers of the Medical Department will report in person to the President of the Medical Examining Board, in session in New York City, for examination for promotion, and, on its conclusion, return to their stations: Captain WM. H. KING, Assistant-Surgeon, Fort McHenry, Md.

Captain H. S. TURRILL, Assistant-Surgeon, Madison Barracks, N.Y.

Captain W. REED, Assistant-Surgeon, Washington Barracks, D.C.

Captain H. S. KILBOURNE, Assistant-Surgeon, Fort Porter, N.Y.

Captain M. W. WOOD, Assistant-Surgeon, Fort Brady, Mich.

" R. W. SHUFELDT, " " Washington, D.C.

" H. O. PERLEY, " " Fort Columbus, N.Y.H.

Captain H. G. BURTON, Assistant-Surgeon, Fort Hamilton, N.Y.H.

Captain L. M. MAUS, Assistant-Surgeon, at expiration of his present leave of absence, and then to return to his proper station, David's Island, N.Y.

Captains WM. H. CORBUSIER and WM. B. DAVIS, Assistant-Surgeons, at the expiration of their present leave of absence, and upon conclusion of their examination, to report by letter to the Surgeon-General. S. O. 58, A. G. O., March 13, 1882.

FRANTZ, JOHN H., MAJOR AND SURGEON.—Died at Baltimore, Md., on March 2, 1882.

PHILADELPHIA, APRIL 8, 1882.

ORIGINAL LECTURES.

CLINICAL LECTURE ON A CASE OF LITHIASIS.

Delivered at the Philadelphia Hospital

BY JAMES B. WALKER, M.D.,

Professor of Practice of Medicine, Women's Medical College
of Pennsylvania.

GENTLEMEN,—The patient whom I bring before you for clinical study to-day is a man 77 years of age, a native of Philadelphia, by occupation a travelling agent.

He has been complaining for several months of an almost constant vertigo, which keeps him in fear of falling when on his feet. His ordinary condition of health has been very good, and he has spent an active life, which renders him quite restive in his present condition. He has been under the observation of several physicians; was sent to the nervous ward with the idea that his condition might be due to some cerebral lesion, and was returned to the medical ward, where I saw him yesterday for the first time.

His condition reveals to the examiner no symptom of prominence; and it is indeed this absence of marked symptoms, together with the suggestiveness of a cluster of minor symptoms, which induces me to bring him before you, as it is very important that the practitioner shall be familiar with these.

Let us look into his face. We note two points of suggestive interest. Upon each cornea, as we elevate the upper lid, we see a well-marked *arcus senilis*, and upon each cheek may be seen the *red branching twigs* of dilated arterioles. His hands are cold, and he says his feet are also always cold. On feeling the pulse, the radial artery is found *thickened and cord-like*, with a slight but palpable tendency to "beading." The pulse itself is sustained and incompressible, indicating *increased arterial tension*, which is the more remarkable in this case as the patient is not what may be called "full-blooded," but rather the contrary. Finding this "fibrosis" of the radial artery, we examine the temporal, and find it also fibrous, and much more tortuous than normal. With these changes in the vascular

system, our attention is naturally directed to the heart. Searching for the apex-beat, we find it without difficulty in the sixth intercostal space and without the mammary line, striking the chest with considerable force, and indicating *left ventricular hypertrophy*. Auscultation reveals an *accentuation of the aortic second sound* as the only abnormal auscultatory phenomenon.

Now, not one of these symptoms may be classed as prominent, and, with the exception of the *arcus senilis*, all of them might easily escape superficial observation. But their coexistence is very suggestive, and our attention is at once directed to the kidneys, to discover a clue, if may be, to the *fons et origo* of these circulatory modifications.

He informs us that he is obliged to micurate frequently during the night, and that, without ever having actually measured the quantity, he is confident that it is considerably in excess of the norm. I here show you a specimen of it. It is very pale in color, with a specific gravity of 1010; and on testing for albumen a faint white trace is seen bordering the line of the acid. The presence of albumen is not requisite to finish the clinical picture, although its presence strengthens the convictions furnished by the other symptoms; but you may remember that in the form of kidney disease with which this patient suffers albuminuria is frequently absent at this stage. Opportunity has not as yet been afforded me to examine the urine microscopically, and consequently I pass this feature by.

Let us consider the proper interpretation of these varied symptoms, and endeavor to fit them together so as to create, if possible, a true clinical picture of the case.

The *diuresis* furnishes us with the key, and the *increased arterial tension, hypertrophy of the left ventricle, and accentuation of the aortic second sound* unlock the mystery.

This patient is suffering from a condition referred to in the old nomenclature as "suppressed gout," or the "uric-acid diathesis," and in later times by Murchison as "lithæmia," and by Fothergill as "lithiasis." The investigations commencing, according to Fothergill, with James of Exeter in 1817, and continuing up to the present day in the researches and writings of Bright, Rokitsky, Traube, George Johnson, Handfield Jones, Gull and Sut-

ton, and many others, have pretty clearly demonstrated each step in the process of abnormal changes, and associated them directly with chronic renal disease of the form variously known as "interstitial nephritis," "granular kidney," "gouty kidney," etc.

Although Gull and Sutton hold the condition to be a general fibroid diathesis or an "arterio-capillary fibrosis," essentially general, in which the kidneys *may* share, though not necessarily, still, most observers consider the condition to be due primarily to the diseased state of the kidneys.

These organs, when interstitial nephritis has become established, are believed to remove imperfectly the retrograde materials from the blood, which, remaining in the circulation, excite a resistance in the arterioles, either by directly irritating to contraction their muscular walls, or by irritating the vaso-motor centres. The resistance thus induced limits the escape of blood from the arterial system and keeps this system over-distended. Resistance to the proper emptying of these vessels induces increased force of the left ventricular systole, leading to the gradual development of the muscular walls, or, in other words, to hypertrophy. An hypertrophied heart at one end of the arterial system and resistant arterioles at the other induce the most characteristic symptom of this affection,—viz., the *high arterial tension*. The sustained high arterial tension, with an hypertrophied ventricle driving a new increment of blood into the arteries with each systole, induces the arterial fibrosis, which can ultimately be recognized as atheroma in the superficial arteries, and which constitutes at once one of the marked features of the condition and one of the most disastrous results of the disease, in the constant danger of apoplexies from the rupture of such "rotten vessels."

But, you may ask, if this patient has renal disease, why has he not dropsy?

The increased urination, brought about by the high arterial tension, prevents hydræmia. At a later stage of the disease, when diuresis disappears, dropsies show themselves. Again, you ask, why are there no uræmic symptoms? I have called your attention to a symptom which may be classed as uræmic. I refer to the increased arterial tension due to the contracting arterioles. The materials for excretion, collecting by degrees, excite this condition,

and this serves as a preventive of further toxæmia. Even in the healthy kidney, whatever increases the amount of water voided increases absolutely, even though not relatively, the amount of solids excreted; and this rule holds good also in all cases where the organ is diseased.

The safety of patients with granular kidneys lies, then, in the increased arterial tension, which, by increasing the leakage of water by the kidneys, washes from the blood so much of the nitrogenous waste as to prevent uræmia. Later in the disease, when, from cardiac failure or increased renal disability, the equilibrium is lost, uræmic symptoms are extremely prone to occur, and frequently induce the fatal termination.

I believe the vertigo of which this patient complains is due to the condition of the blood supplied to the cerebral tissue. It may be simply due to cerebral anæmia, but I am inclined to ascribe it to the toxæmia. The treatment which I institute will decide if the latter view is correct.

The prognosis of this case is favorable so far as lease of life is concerned, compared with other chronic renal diseases. The age of this patient goes far towards increasing the danger of apoplexy, by adding, to the rottenness of vessels induced by the disease, that which is due to senility. The disease may be arrested, but the changes already instituted cannot be removed.

The treatment mainly concerns three indications.

First. *Rest*, to limit tissue-waste and avoid further toxæmia.

In some cases moderate exercise in the open air may, however, be very useful by aiding in the oxidation of the retrograde materials and the formation of that most soluble of all excretory products, urea, and in this manner lessening the toxæmia.

Second. *Diet*, excluding as far as possible the proteids, allowing them to be used only so far as they may be required to supply tissue-waste.

Third. The administration of such substance as shall render more soluble, and hence more readily excreted, the nitrogenous waste. If this material of tissue-waste be largely lithic or uric acid, as the names given to the condition by Murchison and Fothergill of "lithæmia" and "lithiasis" would suggest, some material forming a soluble salt with this is indicated. It has been found that urate of lithium is the

most soluble of the urates; and we will administer to this patient the carbonate or citrate of lithium with this intention, giving ten grains thrice daily, expecting thus to benefit both the urinary and vascular systems.

Supplement.—The patient, though tottering in his gait, had walked down to clinic, and after the lecture had remounted the stairs to the medical wards in the third story. At his evening visit, my resident, Dr. Hancock, found him slightly aphasic, and by morning he was entirely so, although still appearing to comprehend what was said to him. His intellect gradually clouded, in spite of remedies, and he died in five days.

The autopsy verified the diagnosis. The kidneys were reduced to little more than half their normal size, and presented an almost infinity of "retention cysts," both on the surface and in the tissue, besides all the macroscopical evidences of the "granular kidney."

On removing the calvaria, a large quantity of cerebro-spinal fluid escaped. The brain was handed over to my colleague Dr. Mills to examine, who reports as follows:

"The brain has a general and marked anæmic appearance. Arteries of the base are all more or less rigid, the 'circle of Willis' being so rigid as to retain its shape after its removal. The pia mater easily stripped off, having evidently been dissected off by a serous effusion beneath. There are no gross lesions. There were numerous small spots, particularly in the pons and medulla, due to minute extravasations of blood."

Comment.—The interest in this case lies in the extensive changes in the arterial and renal tissue, with the absence of any marked symptom. As stated in the lecture, it was the *cluster* of symptoms which made it possible to make a positive diagnosis of so grave a lesion of the kidneys, even in the entire absence of dropsy and with only the most meagre suggestion of albuminuria.

TREATMENT OF OBSTINATE EPISTAXIS.—A combination of subacetate of lead (twelve parts) and opium (one part), of which two grains (thirteen centigrammes) may be given in a pill every two hours, has been successfully used by Dr. Roth.—*Memorabilien*, Heft 5. 1881.

THE death of Prof. Oscar Simon, the well-known dermatologist of Breslau, is announced.

ORIGINAL COMMUNICATIONS.

PERFORATING ULCER OF THE FOOT, AND DYSTROPHIC ARTICULAR CHANGES IN LOCOMOTOR ATAXIA: THEIR PATHOLOGY AND SURGICAL TREATMENT.

BY FRANK DUDLEY BEANE, A.M.,
M.D. (Bellevuen.),

New York City.

INASMUCH as surgical text-books give very meagre information upon the diseases under consideration, I trust the following record of my inquiry may prove not only interesting, but of practical value. Agnew, Ashhurst, Bryant, Clarke, Erichsen, Fergusson, Follin and Duplay, Gant, Gross, Holmes, Hamilton, Markoe, Macnamara, Spence,—all very high surgical authority,—have totally ignored the subject of the arthropathies of locomotor ataxia, although revelations concerning these affections had been made in 1868.

Curiously, too, surgical authorities have almost unanimously failed to elucidate the clinical features, pathology, and treatment of

PERFORATING ULCER OF THE FOOT.

Clinical History.—Erichsen* says, "Perforating ulcer of the foot consists in a sinus that traverses the foot between the metatarsal bones. It is unconnected with any disease of the osseous or articular structures, and occurs in otherwise perfectly healthy persons." He continues that the mode of origin is as follows. A hard corn or *bunion* forms on the plantar surface of the foot, inflammation attacks the tissues beneath the callus, pus forms, and, finding no exit through the thickened cutaneous structure, burrows upward, and makes an opening on the dorsum of the foot, leaving an intractable sinus. He recommends the passing of a seton from the dorsal opening through the sinus and plantar callus.

Gross,† Hamilton,‡ Holmes,§ add nothing to the above description. Ashhurst|| assigns the same cause and mode of production, but adds that caries and necrosis of the bones may result. In this latter condition he considers amputation through the metatarsus preferable to excision, al-

* The Science and Art of Surgery. Philadelphia, 1874.

† System of Surgery. Philadelphia, 1873.

‡ Principles and Practice of Surgery. New York, 1876.

§ System of Surgery. New York, 1874. Surgery: its Principles and Practice. Philadelphia, 1876.

|| Principles and Practice of Surgery. Philadelphia, 1871.

though he says Kramer, Pancoast, and others have successfully performed the latter operation.

Follin and Duplay simply describe a *superficial* perforating ulcer of the foot. Agnew, Billroth, Gosselin, Markoe, Macnamara, Paget, and Spence make no mention of the disease.

Bryant* is the only text-book authority who gives an accurate description of *true* perforating ulcer of the foot; but this he borrows from Nélaton.† In the treatment of the disease he follows Hancock.‡ He further (and rightly) informs the reader that "these cases are not to be confounded with the suppurating bursæ or bunions found in feet deformed from short or tight boots."

A most excellent account of the history, symptomatology, diagnosis, and treatment of this disease is contained in Sédillot's "Contributions à la Chirurgie."§

Following a review of the history of the affection comes a description *in extenso* of two cases which had fallen under M. Sédillot's care. Since they have a bearing upon the case which came under my observation, to be described farther on, I herewith give an abstract of them.

Case I.—W., æt. 55, journalist, greatly broken in health, had previously suffered frost-bite in the foot now affected. First noticed pain over a spot of the plantar surface corresponding to the metatarso-phalangeal articulation of the fifth toe. A *blister* here formed, ruptured, and secreted thin fluid. Ulceration commenced, the surrounding skin began to harden. The ulcer extended upwards towards the bones of the joint. Rest and stimulating applications relieved temporarily, but the ulceration afterwards increased in depth. When seen by M. Sédillot, the ulcer was quite large, with marginal induration; the tissues at the bottom were "boggy," the bones carious and necrosed. A large piece of bone was removed; but so much bone was found diseased that it was deemed best to amputate the little toe and metatarsal bone, which was done. Healing proceeded satisfactorily until the twentieth day, when a gangrenous spot in the centre of the cicatrix was observed. Probing detected dead bone. On the twenty-sixth day M. Sédillot intended to perform Lisfranc's operation, but, finding the tarsal bones spongy, altered, and softened, and on account of the man's greatly-deteriorated health, he amputated the leg at the point of election by the

anterior-flap method. The patient recovered in due time, with a useful stump.

Case II. was less serious. The amount of dead bone was small; became exfoliated. Repeated applications of the actual cautery were employed during the treatment. The ulcer healed after a slight relapse.

M. Sédillot draws especial attention to the occurrence of these ulcers in broken-down subjects, although claiming that they are not confined to such. He refers to one of his cases occurring in a man in the higher walks of life, which he at first treated successfully. A relapse and subsequent operation (inferred, though not so recorded) proved fatal. No particulars are vouchsafed.

M. Sédillot considers the affection to be an ulcer pure and simple, due to injury, mechanical pressure, etc.

He refers to two cases of M. Macker: || one, a soldier, æt. 49, broken down by alcohol, in which disarticulation of the toe did not prevent a return of the disease, which terminated fatally some years later; the other, male, æt. 64, alcoholic, in which ablation of the fifth metatarsal bone produced a lasting cure.

He also cites cases of MM. Bertrand and Potier-Duplessy, ¶ in one of which cure followed disarticulation of the fifth metatarsal bone.

Henry Hancock, F.R.C.S., reported** a case of this disease in which he performed a modification of Pirogoff's amputation with success.

He reported three other cases communicated to him by Mr. Wilks, in which the question of heredity arose, since the patient's ancestors or brothers or sisters had been similarly affected. In one of these cases Syme's operation proved successful after a previous partial removal of the foot.

Mr. Hancock refers to the case reported by Vesignié†† (d'Abbeville), mentioning the latter's high regard for arsenic in the treatment of this disease. This mineral, as well as all other medicaments, external and internal, has been proved to be inert in controlling or curing this affection.

M. Nélaton‡‡ pronounced this an incurable affection. He described it as commencing as a phlyctæna, which bursts, secretes a thin fluid, and is followed by

* Practice of Surgery, p. 408. Philadelphia, 1873.

† Gazette des Hôpitaux, January, 1852.

‡ British Medical Journal, June 26, 1869.

§ Two volumes. Paris, 1868.

|| Comptes-Rendus de son Service à l'Hôpital Colmar.

¶ Rec. de Mém. de Méd., de Chirurg. et de Phar. Milit., June, 1865.

** British Medical Journal, June 26, 1869, p. 585.

†† Gazette des Hôpitaux, February 5, 1852.

‡‡ See letter to British Medical Journal, June 26, 1869, p. 586.

progressive ulceration. Undoubtedly this is the more usual mode of origin.

In a more recent article by Messrs. Savory and Butlin,* a most excellent review of the literature, pathology, and treatment will be found. They record five cases, of which the following are the salient points.

Case III.—Ballet-dancer, æt. 40 years, had suffered from suppurating corns.

Present condition: Constant and profuse sweating of the feet; anæsthesia of both feet and legs; arteries of legs small; pulse in right foot very feeble; three ulcers in sole of each foot,—viz., centre, and on either side of great and little toes, on line with metatarso-phalangeal joints. Ulcers in worse condition on right side. Poultices; pieces of bone discharged. Ulcers healed, but thickening at site of each remained.

Case IV.—Stableman, æt. 44. Suppurating corn, followed by perforating ulcer of right foot of three years' standing. Poultices; exfoliation of bone; ulcer healed. Three years later, readmitted to hospital with large ulcer (size of a shilling) under left great toe, near metatarso-phalangeal joint. Amputation of great toe; metatarso-phalangeal joint denuded of cartilage, and bone carious. In a month wound healed.

Case V.—Porter, æt. 41 years. Suppurating corns, extending over a period of twelve years. Ulcer of sole at head of fifth metatarsal bone, right foot; fistulous opening on dorsum almost opposite site of ulcer. Little toe (and metatarsal bone) amputated. Ulcer nearly healed when discharged from hospital, but dorsum of foot considerably swollen; skin dusky red.

Case VI.—Clerk, æt. 27. Ulcer of nearly fifteen years' duration. Ulcer of right foot at middle and inner portion of sole, one and a half inches diameter, not far from base of the toes. Anæsthesia of the whole foot and lower portion of the leg; partial anæsthesia as high as just above the knee; movements and locomotion good. Ulcer first appeared under base of great toe. Leg amputated below knee; recovery. Anæsthesia unchanged.

Case VII.—Hostler, æt. 27 years. Suppurating corn; ulcer over fifth metatarsal bone; dead bone. Excision of the metatarsal bone; healed. Great perspiration of foot. Year later, pain, swelling, callus. In centre of latter a hole leading down to cuboid bone; carious. Syme's operation; stump healed. A while after, fell on stump; abscess; ulcer of stump. Poultices; ulcer healed. Then another abscess and ulcer of stump. Amputation through the *tuber. tibiae*. Recovery; cure.

While in all of these cases the ulcers were preceded by suppurating corns, never-

theless the corn, as well as the subsequent destruction of tissues, depended upon the same cause,—not mechanical violence *per se*, but deteriorated nervous (and circulatory) vitality.

As a further elucidation of the clinical history of this disease, I will here as briefly as possible record a case which fell under my own observation about three years ago.

Case VIII.—*Locomotor Ataxia, Second Stage; Perforating Ulcer of the Foot; Special Arthropathy; Limited Operation; Death.*

Male, æt. about 45 years; American; retired from business; no syphilis; a sufferer from locomotor ataxia for several years; can walk better now than a year ago. Treatment by tonics, nervous remedies, change of climate, electricity by advice of many and eminent physicians, has availed nothing. About four years ago an abscess formed over dorsal surface of the metatarso-phalangeal joint of the left great toe, opened, discharged for a long time, finally healed by use of solution of carbolic acid. For a year past, troubled with two discharging ulcers, plantar surface of metatarso-phalangeal articulation of the great toe of each foot. They began as small ulcerating points, with increasing callous edges. Had been advised to apply tinct. iodine thereto.

Actual Condition.—Pale, careworn countenance; anæmic, nervous, and irritable; memory slightly impaired; quick, nervous speech; occasional headaches; no prominent ocular symptoms; no incoördination of facial, labial, or glossal muscles; fair appetite; no *crises gastriques*; only occasional constipation; genital organs cold and flabby; anaphrodisia; frequent micturition; urine normal; muscles flabby,—of lower extremity slightly atrophied; dulness of general and tactile sensibility; slight impairment of hearing; reflectivity exaggerated; marked incoördination of lower extremities, with some paresis; difficulty, at times pronounced, in buttoning his clothes; muscular power in arms much diminished; walks with two canes or by aid of a person's arm.

The Ulcers.—Widely-extending, very thick callus. In centre thereof a small opening, admitting end of probe. Thin serous fluid exudes from right, none from left, opening. The callus having been pared away, two superficial, indolent ulcers remain, the right larger than the left. Although they seem to be superficial, and probe detects no sinus or bone, they are believed to be connected with a deeper trouble.

Course, etc.—Rest, stimulating local applications, phosphide zinc and iron internally. On the twelfth day of treatment, the left ulcer having almost completely healed, and the right greatly improved, the right foot (especially the anterior two-thirds) became greatly swollen. Patient had "stubbed" the right

* Medico-Chirurgical Transactions, second series, vol. xlv., 1879, pp. 373 to 393, with three plates.

great toe on the previous day. The greatest amount of swelling was located about the metatarso-phalangeal joint of this toe, with the feeling of effused fluid. No pain. Skin shiny and bluish-red cast. Parts slightly hot to touch. Overextension the only movement which caused pain (slight). Never suffered from a like trouble before. In a week the swelling, excepting in and around the big toe, had subsided, aided by use of elastic bandage. Previous to the appearance of this complication the patient had improved in appetite and strength; but this new feature rendered him very despondent and took away his appetite.

About the twenty-third day of treatment, sloughing of the tissues about the right ulcer began, so that eight days later it was much increased in size. Swelling about and infusion into the joint remained. At this time a serous fluid began to flow from this ulcer, saturating the dressings. The tissues at the bottom were "boggy." For the first time, denuded bone could be detected, apparently of small amount.

The patient urging a resort to such treatment as would give encouragement of healing the parts, on the succeeding eighth day a small incision was made through the base of the ulcer, and two carious and partly-detached Wormian bones removed. At the bottom of the wound the denuded opposite ends of the metatarso-phalangeal bones of distal end of the second metatarsal bone could be detected. A large quantity of serous fluid flowed away on making the incision. Carbolyzed oil and oakum dressing. Good reaction from ether. On second day, mild surgical fever; broken up in three days by Warburg's tincture.

In spite of quinia, iron, and stimulants, the patient became more and more debilitated. His surroundings were of the most depressing and harassing character.

No action of repair in the wound appeared. Progressive denudation of the proximal phalanx of the great toe, to a lesser degree of the first metatarsal bone, took place. The surface of the bones seemed to fade away, not the least inflammatory action or pain in the osseous or surrounding tissues attending. Mild traumatic fever reappeared, and death occurred twenty-three days after the operation.

The special features of this case were dystrophic changes in the skin and subcutaneous connective tissue in the form of ulcers; dystrophic arthropathy; trophic degeneration of the bones of the foot; fatal result from a slight traumatism and small loss of blood in an ataxic subject.

This case well illustrates not only perforating ulcer of the foot, but the special arthropathy of locomotor ataxia, which we shall presently consider.

Pathology.—The pathogeny of this dis-

ease is not yet settled. MM. Duplay and Morat* have made very careful investigations, and found, first, vascular changes, as more or less pronounced endarteritis; second, nerve-lesions. As M. A. Vulpian tells us,† the former condition had been pointed out by MM. Dolbeau, Pean, and others, who considered them the consequence of the ulcerative process. Although M. Poncet‡ had previously described the condition of the nerves neighboring the ulcer, MM. Duplay and Morat were the first to demonstrate that these changes, even at some distance from the ulcer, are similar to those occurring in the peripheral segment of a divided nerve. While they consider these nerve-changes essential to the production of perforating ulcer of the foot, they avow that science is not yet sufficiently advanced to speak positively of the mechanism of its intervention. They add, "It is possible that the anæsthesia and trophic derangements concomitantly play a certain part in the development of the ulcer."

M. Vulpian thinks that lesions of vasomotor nerves, even if they exist in this disease, can exert only a secondary influence.

In the main, Messrs. Savory and Butlin agree with MM. Duplay and Morat. They summarize as follows: "We should say, then, that the defects of sensation and nutrition which are observed in connection with perforating ulcer, and of which latter the ulcer is one of the most marked symptoms, are due to absence or degeneration of the sensory and nutritive fibrils of the supplying nerves, and that, in many cases of peripheral disease at least, these fibrils suffer as the direct result of mechanical pressure produced by increase of the endoneurium of the nerves, whilst the motor fibrils escape, owing to their larger size and thicker medullary sheath."§ They add that the causes of the production of this thickening of the endoneurium may be numerous. Several times they found it in limbs in which rigid or calcareous vessels were present.

Treatment.—We have seen that M. Sédillot recommends the actual cautery in mild cases, combined with rest and stimulating applications. In more severe cases

* Archives Générales de Médecine, Mars, Avril, Mai, 1873.

† Leçons sur l'Appareil vaso-moteur. Paris, 1875, t. ii. p. 400, 401.

‡ Rec. de Mém. de Méd. de Chirurg. et de Phar. Milit., 1864; and Gazette Hebdomadaire, 1872.

§ Op. citat., p. 384.

he resorted to partial or complete removal of the foot.

Hancock condemns the placebo treatment of Vesigné and the *laissez-aller* method of Nélaton, advising the removal of dead bone and an attempt to heal the parts. He continues: * "But if, notwithstanding, the disease returns, there can no longer be a question that when once perforating ulcer of the sole of the foot is established and recognized it is better at once to remove the whole of the metatarsal bones, either by Chopart's, Syme's, or Pirogoff's amputation."

Messrs. Savory and Butlin recommend prolonged rest; but they declare that even when the ulcers heal by this method they are prone to reappear soon after a return to locomotion. In some cases they would try the application of an artificial leg to the bent knee, thereby taking off all pressure from the foot and leg. Failing in this, excision of the diseased bones. As a last resort, amputation beyond the limit of the anæsthesia.

In the light of recorded cases and the pathology of the disease, our duty would seem to be,—

a. In cases where there is no diseased bone, to advise prolonged rest, stimulating applications or poultices, and attention to the shape of the shoes after healing has been accomplished.

b. Removal of all dead or carious bone that can be reached without materially enlarging the already existing ulcer, with subsequent antiseptic and stimulating dressing to induce repair. The patient's constitutional condition should be given careful attention.

c. When the disease is confined to either the first or fifth metatarso-phalangeal joint, the denudation and destruction of bones being of any extent, amputation of either toe, including the metatarsal bone, should be performed.

d. A relapse following such operation, Chopart's, Pirogoff's, or Syme's operation is indicated. In some subjects of greatly lowered vitality (see cases of Sedillot and Savory and Butlin) amputation of the leg would be safer.

THE ARTHROPATHIES OF LOCOMOTOR ATAXIA.

Historical.—M. J. M. Charcot first described† the special lesions of the joints

occurring in certain cases of posterior spinal sclerosis (primitive posterior systematic leucomyelitis, *Vulpian*†). Drs. J. K. Mitchell,§ Sir William Gull,|| Scott Alison,¶ S. Weir Mitchell,** Brown-Séquard,†† and others had observed arthropathies of neural origin as complications of Pott's disease, hemiplegia, paraplegia, etc. Since M. Charcot's communication, several authors have treated this subject, as Benjamin Ball,‡‡ Allbutt,§§ Buzzard,|||| S. Weir Mitchell,¶¶ and M. A. Vulpian.*** The latter has aptly summarized the special features of these affections: "*En résumé*, sudden periarticular swelling, with very rapid development; considerable distention of the joint; little or no fever at the outset; absence of pain; later, abnormal mobility of the joint,—such are the clinical characteristics: rapid destruction of the osseous tissue, without tendency to the formation of osteophytes in the vicinity of the destroyed tissue,—such are the anatomical peculiarities."

Charcot,††† whose observations I epitomize, pointed out that this affection generally appears simultaneously with the motor incoördination, sometimes even preceding the latter. The swelling of the joint appears suddenly, without any appreciable external cause. Neither fever nor pain attends. Swelling of the tissues neighboring the joint occurs to a very considerable degree. The hydrarthrosis may persist some time, but the general tumefaction disappears in a few days. In a week or two, sometimes sooner, more or less marked crepitus may be detected, revealing the already profound alteration of the articular surfaces of the bones. The hydrarthrosis being resolved, extreme mobility of the joint remains, giving rise, in some cases, to dislocations. He also observed in several cases a rapid wasting of the muscles about the affected joints. The disease, he

d'une Lésion du Cerveau ou de la Moëlle épinière. Arch. de Physiol., t. i. p. 396. Paris, 1868.

† Maladies du Système nerveux, de la Moëlle. Paris, 1879, p. 240.

‡ Amer. Jour. Med. Sci., 1831, p. 55, and 1833, p. 360.

§ Guy's Hospital Reports, third series, 1858, vol. iv. p. 206.

¶ London Lancet, 1846, vol. i. p. 278.

** Gunshot and Other Injuries of Nerves. Philadelphia, 1864.

†† Paralysis of the Lower Extremities. Philadelphia, 1861.

‡‡ Medical Times and Gazette, 1868, vol. ii. pp. 498 and 550; and 1869, ii. 123, 272, 484. Gazette des Hôpitaux, 1869.

§§ Pamphlet, same year, Asselin, Paris.

|||| St. George's Hosp. Rep., vol. iv.

¶¶ London Lancet, 1874, vol. ii. p. 261.

*** Amer. Jour. Med. Sci., April, 1875, p. 339.

††† Loc. citat. *sup.*

†††† Leçons sur les Maladies du Système nerveux. Paris, 1872, 1873.

* Op. cit.

† Sur quelques Arthropathies qui paraissent dépendre

continues, usually attacks the elbow-, shoulder-, knee- (especially), and hip-joints.

M. Vulpian* says that even the smaller joints may be attacked.

Ball† claims that there are two forms, —the early and late.

M. Charcot‡ has, however, shown that this is only relatively true, since the so-called late form is seated in the upper extremities, and it is well known that the spinal lesion travels from below upward. The fact that this arthropathy appears in the upper extremities when there is no, or only slight, ataxia in those parts, would seem to support Charcot's view.

Charcot, Ball, and Bernutz§ have each seen a case wherein the liquid in the swollen joint was purulent; in all other cases it was serous. In cases wherein suppuration occurred fever was present. In M. Bourceret's case the temperature reached 107.24° F.

A special characteristic is absence of pain in spite of the large amount of swelling.

Pathology.—The peculiar anatomical feature of this disease is *rapid destruction of osseous tissues*. The articular extremities of bones are rapidly worn away. There is no effort towards reproduction of bone. In a few weeks or months a very large amount of osseous destruction may occur.

Regarding the nature of the affection, all authorities agree that it is due to a perturbation of the trophic influence of the nervous system. M. Charcot|| first thought that there was a special connection between the arthritic lesion and a degeneration of certain nerve-cells of the anterior cornua of the spinal cord, basing his deduction upon a few cases. Later¶ he saw his error, since in cases presenting otherwise similar features no changes in the anterior cornua could be detected.

Other Forms.—M. Charcot** tells us that aside from the arthropathy just described, and which is peculiar to locomotor ataxia, we may see the ataxic patient attacked by nodose (deforming) rheumatism or by dry arthritis, each presenting their usual clinical features.

Finally, in reviewing Case VIII., we see that the plantar ulcers first arose be-

cause the tissues presided over by the trophic nervous system were, by reason of spinal changes, unable to resist normally the influence of mechanical violence produced by the patient's awkward movements in locomotion. The special arthropathy of the primary disease followed. The singular feature connected herewith was its late appearance,—namely, after extreme ataxia had existed for a long time. In this respect the case would seem to support M. Ball's classification.

Treatment.—A thoroughly practical question is, How shall perforating ulcer of the foot, with or without the special arthropathy of ataxia, be treated when occurring in a tabetic subject?

Basing my conclusion upon a review of Case VIII. and the pathology of the disease, I most unhesitatingly advise that when there is but limited disease of the bones no operative measures whatever should be resorted to. Detergent and protective applications should alone be employed. When the disease has progressed to a very considerable extent, amputation of the leg might be made, *provided* the patient's general condition would permit of such a capital operation with any hope of success. The exercise of great judgment would be required in deciding the case. Better err on the side of expectancy than perform an operation which, in the majority of cases, would reflect injuriously upon the operator, since, from the nature of the primary disease, but little recuperative power could be expected.

The treatment of ataxic arthropathy proper should be limited to keeping the parts at rest, to the employment of mild compression,—possibly, where the hydrarthrosis is great or is not speedily resolved, aspiration of the joint.

Resulting dislocations should be reduced, and the parts preserved in their normal relations by the simplest mechanical means.

For the benefit of those desiring to investigate these subjects more fully, I append a brief bibliography in addition to that already given.

PERFORATING ULCER OF THE FOOT.††

SMITH, HENRY, *Lancet*, 1870, vol. ii. p. 468.

ESTLANDER, *Deutsche Klinik*, 1871, s. 154.

Author argues that all cases are due to leprosy.

NEALE, *Lancet*, 1871, vol. i. p. 144.

†† Borrowed from Savory and Budlin's appendix to their paper, *loc. cit.*, with the exception of the last three references.

* *Loc. citat.*, p. 333.

† *Gazette des Hôpitaux*, 1869.

‡ *Loc. cit. supra*, edition of 1873, 1874, p. 58.

§ Bourceret, *Arthropathie ataxique suppurée*, Société Anat., 1875.

|| *Leçons sur les Maladies du Système nerveux*. Paris, 1872, 1873.

¶ *Ibid.*, edition of 1873-74, p. 70.

** *Ibid.*, p. 57.

REILLY, *Lancet*, 1871, vol. i. p. 220.
 PONCET, *Gazette Hebdom.*, 2me série, t. ix. p. 51. Author again calls attention to connection with leprosy, and describes condition of nerves,—i.e., thickening of endoneurium, increase in number of nuclei, and atrophy of fibrils.

HANCOCK, "On Operative Surgery of the Foot and Ankle," p. 57. London.

GILLETTE, *L'Union Médicale*, t. xvi. p. 287.

MAZZONI, 1874, *Anno Secondo di Clin. Chirur.*, p. 12.

SCHOEMAKER, *Langenbeck's Archiv*, bd. xvii. s. 144. Author considers this an epitheliomatous affection.

BRUNS, PAUL, *Berliner Klin. Wochen.*, 1875, s. 417. Author draws attention to absence of affection of motor nerves (fibrils) in this disease.

FISCHER, *Langenbeck's Archiv*, bd. xviii. s. 301.

WERNHER, *Deutsche Zeitschr. f. Chirurg.*, 1876, s. 519.

DUPLAY, *Archiv. Gén. de Méd.*, 6me série, t. xxvii. p. 346.

MORAT, *Lyon Médicale*, 1876, t. ii. p. 84.

MICHAUD, *L'Union Méd.*, t. xxi. p. 5. Author claims existence of sclerosis of the nerves near seat of ulcer; but higher up nerves normal. Divides cases into two categories,—1, symptomatic of various affections of spinal cord or nerve-trunks; 2, idiopathic, as described by Nélaton. Refers to absence of involvement of motor fibrils in the disease.

SONNENBURG, *Deutsche Zeitschr. f. Chirurg.*, 1876, s. 261.

CZERNY, *Beiträge z. Operat. Chirurg.*, 1878. Stuttgart, s. 165.

ENGLISCH, *Wiener Med. Jahrb.*, 1879, s. 81.

HANOT, V., *Archiv. de Physiol. et Pathol.*, 2me série, viii. 157-159.

GUENEAU, P., "Du Mal perforant chez les Ataxiques." Paris, 1881, pp. 51 (thesis).

ATAXIC ARTHROPATHY.

RAYMOND, *Gaz. Méd. de Paris*, 1876, p. 89.

PETIT, L. H., *Revue Mens. de Méd. et de Chirurg.*, t. iii. pp. 209-224.

ROBERT, A., *Progrès Méd.*, t. vii. p. 326.

REYNARD, P., "Compt.-Rend. de l'Acad. des Sciences," t. lxxxix. p. 1041.

VULPIAN, A., "Clin. Méd. de l'Hôp. de la Charité," 1879, pp. 807-832.

BUZZARD, T., *Med. Times and Gaz.*, 1880, vol. i. p. 173; discussion, *ibid.*, pp. 191-193. *Lancet*, 1880, vol. i. pp. 208-210.

DRESCHFELD, *British Med. Jour.*, 1880, vol. i. p. 592. *Lancet*, 1880, vol. ii. p. 51.

RAYMOND, *Praticien*, Paris, t. iii. pp. 522-525.

CHARCOT, J. M., *Gaz. des Hôp.*, 1880, pp. 1178 and 1195. *Ibid.*, 1881, p. 26. *British Med. Jour.*, 1881, vol. ii. p. 285.

BLANCHARD, R., *Gaz. des Hôp.*, 1881, pp. 147 and 267.

BUZZARD, T., *British Med. Jour.*, 1881, vol. i. p. 330.

BONNAIRE, E., *Progrès Méd.*, t. ix. pp. 621-623.

VALLIN, E., *Bull. et Mém. de Soc. Méd. des Hôpit. de Paris*, 1879, 2me série, vol. xvi. pt. 2, pp. 86-94.

A CASE OF OVARIOTOMY, WITH APPARENTLY DOUBLE OBLIQUE INGUINAL HERNIA AND TWO UNCERTAIN TUMORS OF THE LABIA MAJORA.

Read before the Philadelphia County Medical Society, December 21, 1882.

BY W. W. KEEN, M.D.

MRS. R.; American; æt. 52; passed the change of life æt. 46; five children, the last eighteen years ago. Fifteen years ago she had gradually developed double oblique inguinal hernia. Her recollection as to the history of these protrusions is not very clear. She has worn a double truss for years. In good health till last spring, when pain began in the back, and the abdomen began to swell. Dr. Isaac E. Roberts first saw her some two months ago, when her chief difficulty was flatulence and dyspnœa from the crowding of the abdominal contents upward. No history of any attacks of peritonitis. Her legs never swollen till a month ago, and then very slightly. Urine normal, but scanty; appetite poor; has lost flesh.

December 17, 1881, I saw her with Dr. Roberts, and found her a rather spare, thin woman, evidently in ill health. Chest and contents sound; abdomen distended; the abdominal veins rather more marked than usual. In the erect posture, above the level of the umbilicus, the abdomen was tympanitic; below it there was dulness and fluctuation. When the posture was changed, the fluid changed its place; but the right flank at no time lost its resonance. On palpation, but little could be learned, partly on account of her unwillingness to allow much pressure, partly on account of the fluid; but above the right iliac fossa, after passing through the layer of fluid, a small lump could be touched; and from its general resistance it was believed to be connected with an obscurely-felt much larger tumor in the central abdomen.

Each labium majus was distended—the right one the most—by an oblique inguinal hernia, with impulse on coughing. The contents could be reduced in part, but on the right side a curious tumor, feeling ex-

actly like a small testicle, was perceived. It had been there, she said, for years. It was not reducible; it gave no pain. On the left a smaller and softer similar lump was perceptible.

December 19.—Ether was given; and, after drawing off the water, she was tapped low down in the median line. A gallon of ordinary ascitic fluid was drawn off, the stream being often interrupted by the tumor's impinging against the end of the canula. The fluid being removed, the belly was then seen to lie on a large knobby tumor made up of lumps from the size of a large orange to a hazel-nut, some of the larger ones being evidently cysts. One of these was tapped by the aspirator, and 3vj of a fluid resembling that of ascites was drawn off. The whole mass was rather larger than the double fist, and was movable at the lower belly. It extended, however, above the umbilicus, chiefly in the middle line, as an irregular mass, more firmly fixed and not nearly so prominent anteriorly. The uterus was two inches in its internal measurement, freely movable, and in its proper position.

Diagnosis.—A tumor, partly solid, partly cystic, probably cancerous, unconnected with the uterus, and either ovarian or arising from the lumbar glands or possibly the omentum.

Treatment.—An exploratory operation.

Both fluids, on boiling, coagulated completely. The microscopic examination of the cystic fluid showed a few blood-cells and oil-globules, with a very little unrecognizable debris, cellular and granular. No well-marked "ovarian cells" were found.

December 20.—Her condition was excellent this morning, the tapping having given her great relief; and the operation was decided on at once.

Ether was given, and the antiseptic method followed. The abdomen having been reached, the tumor was found to be a cystic and solid tumor of the right ovary. It had only one very slight adhesion posteriorly. In the right iliac fossa it was found that by the broad ligament it was connected to the sides of the pelvis; but the mass here was so totally friable that it broke down and loosened its hold with the greatest ease. A few points of similar soft adhesions existed anteriorly to the bladder. The pedicle was tied by silk (carbolyzed) and dropped into the abdomen. The left

ovary was beginning to be diseased, and was also removed in a similar manner. The upper, more fixed part of the tumor was now found to be in the lumbar glands, unconnected with the ovarian tumor, but doubtless the result of it. This was not touched, of course.

Examination of the two internal abdominal rings showed them both patulous, so that the finger could be thrust into them with ease. No intestine was in the canal at the time of the operation. The left labium contained a movable body, which was with ease protruded into the abdomen and removed by the fingers. As I did so, a teaspoonful or two of fluid escaped from around it. It had a few shreds of tissue looking like omentum (?) at the end next the ring. The tumor in the right labium I could push up to but not through the internal ring.

December 21.—She reacted fairly well, was quiet, without pain during the night, but slept very little; vomited considerably; temperature, 101°; pulse, 140, and weak. The prognosis is of course fatal, and shortly so.

NOTE.—The later history may be briefly stated. Her temperature, after two days, fell to the normal. Though weak and suffering from a disturbed stomach, she was more comfortable after the operation than before it. On the fourth day I removed four of the seven sutures, and on the seventh day the remaining three, the wound having healed throughout by first intention, without suppuration. She failed rapidly after the tenth day, and died on the fourteenth. Dr. Roberts made the post-mortem, and a piece of the liver, the glandular tumor, and the body from the right labium majus were sent to the committee on microscopical examination.

Post-mortem, forty-four hours after death.—Union by first intention was found almost entirely; internal surface of the peritoneum free. Some ascites; some adhesions of the bowels in the right iliac fossa; none in the left. Bladder empty; its surface smooth and free from adhesions. Removed the tumor in the right labium majus, part of its contents oozing out. The upper tumor lay in front of the spine, extending from the diaphragm downward, as large as two fists, hard, nodular, not juicy on section. The pancreas was embedded in it. Liver with cancerous nodules.

WHAT IS THE BEST CURE IN HIP-JOINT DISEASE?

Read before the Philadelphia County Medical Society,
December 28, 1881.

BY OSCAR H. ALLIS, M.D.,
Surgeon to the Presbyterian Hospital.

IT will prevent misapprehension and profitless discussion if I state clearly at the outset the position I intend to sustain.

I shall have no reference in the following remarks to the early manifestations of the disease and its possible cure. An eminent surgeon has said that "nine-tenths of the cases can be perfectly cured if taken in time." Granting this to be true, it is clinical experience that *nine-tenths* of the cases are *not* brought to us in the early stage; and the pertinence of my query still applies to the great majority of cases that fall victims to this painful, crippling disorder.

To make my position still clearer, I will include every grade of the disease under two heads. In the first or milder form the manifestations of the disease are not such as occasion alarm on the part of the patient or friends. Though a slight lameness is present, and the active sports, exercise, or avocation are precluded, yet the patient is not confined to his bed; and even if medical aid is sought, the disease may be so masked as to escape detection. Finally, after months, the patient seeming to get no better or worse, further medical advice is sought, when the hip presents every evidence of cure from hip-joint disease, but with *fixation of the joint*.

In the second or severer type I shall include all cases that come under our care with unmistakable evidence of high destructive inflammation. The disease requires the most judicious surgical care to arrest it. Slowly but steadily the symptoms subside, health returns, and every evidence of local disturbance disappears, when an examination of the joint shows *fixation*. Fixation I believe to be nature's best cure; and the single question I wish to bring before the Society at this time is, "*Can cases that have passed through the inflammatory stage of hip disease, in which the disease has been arrested and a cure established through fixation, be still further redeemed and a movable joint established?*"

I ask the question, for clinical teaching answers in the affirmative. I ask the question, for I have never heard in lectures or

seen in print a full, clear, and rational standard by which medical men should be guided in their *cures* of this disease. Over and over again I have witnessed in clinical teaching, and in the presence of hundreds, a hip in the stage here represented, moved under an anæsthetic, to break up adhesions and to prevent ankylosis. These cases may never be seen again by the student, and he leaves his *alma mater* with positive views of the proper practice in this stage of the disease. Should such a one light up the disease afresh, he may be led to conclude that it was due to his lack of skill; and such will find some comfort in the instances I shall briefly relate.

The first case of hip disease that was placed under my care occurred on my leaving the Philadelphia Hospital. It was in a lad about 12 years of age. The case had been of an aggravated character, and, if I mistake not, the actual cautery had been applied. At the time I took charge of him the extension apparatus was still employed. He was daily gaining, and every symptom of inflammation had disappeared. A few weeks later I removed the weights, and, cautiously examining the joint, found it fixed. This condition I reported to the surgeon who had put the case in my hands, stating "that the patient would recover, but with a stiff joint." His reply was, "*Not if you do your duty.*" Under his direction I administered an anæsthetic and carefully moved the joint. The result was that the disease returned in fourfold fury, and bore a widow's only son speedily to his grave.

A second case came under my care. In this, a lad of 5 years, the disease had been of a mild grade, and, although for four or five months under medical care, its true nature had not been observed. The case was really one of *nature's cures* with fixation. This was readily pointed out; but the distressed parents desired a better result, if such were possible. With the experience of the first case fully impressed upon my mind, I determined to associate with me a surgeon of experience and authority. The adductor tendons were cut and the limb moved. Giving it a few days' rest, it was again cautiously moved, until in a few weeks it seemed to move as easily as a normal joint. But, just as triumph seemed to be assured, *hectic*, nocturnal pains, and a pointing abscess stole in upon us and forbade further interference. By change

of air, the best of nursing, and a resort to the very means by which the disease is treated in its inflammatory stage, the case progressed favorably, until it finally recovered the condition in which I first found it.

The third case was that of a young man about 20 years of age. He, too, came under my care in the stage of fixation. For months the history had pointed to local hip-trouble, but now the symptoms of the disease and its stage were unmistakable. Thinking that in my other cases I had been too anxious to reclaim the function of the joint, and had therefore been too thorough in my manipulations, I determined in this case to be extremely cautious, to move it at greater intervals, and this would enable me to desist should untoward symptoms arise. I therefore gave an anæsthetic, and, flexing the femur once, and that, too, slowly and steadily, I as gently restored it to its place on the bed. A week later I repeated the motion, with the same precaution; but before the third week came round, the elevated temperature, disturbed rest, and loss of appetite told me I must desist. This I did; but the disease, re-established by the two gentle and cautious manipulations, culminated in destruction of the head of the femur, and, though resection took place a year later under most skilful hands, the patient succumbed.

Thus, of three cases,—the only ones in which I have tried to redeem the hip when nature had cured by fixation,—two resulted in death, and the third escaped, but not until he had been dragged to the verge of the grave by established surgical practice.

That which has been my experience has, I am quite sure, been the experience of others, and with Bryant, who states that the best cures for spinal disease are those that have never come under medical care, I say that, in my experience, the disease of the hip often runs to a most successful issue when let alone, and that interference with this result has done mischief, and only mischief.

Barwell, on Diseases of the Joints, says, under the head of "Hip-Joint Disease," "When inflammation has entirely subsided, and whether or not abscesses have formed, one of the *most* difficult questions to answer is the advisability or otherwise of passive movement as a prophylactic of ankylosis." The question, since it implies a grave doubt of its expediency, is

one of great significance when coming from one whose life-work has been upon the diseases of the joints. He suggests in cases of good constitution, and where the health is in a measure restored, encouragement of exercise in the form of gymnastics, by which the normal function of the joint may be regained. Yet even in this he enjoins great caution. Such advice seems hardly necessary. With returning health, the restless nature of the child will give ample use to all healthy joints; but the little one who has just escaped the agony of joint disease will not be likely to torture itself in its play.

In attempting to reclaim the function of the joint we lose sight of two important things,—first, the pathological condition of the joint; second, that if the object for which manipulation is undertaken be unsuccessful, the patient will be left in a far worse condition by the attempt.

As to the condition of the joint, it may be said that, in all the cases in which the inflammatory stage has run high and been lasting, the soft structures are so changed that there is no true synovial membrane and no true cartilage remaining. The cartilaginous joint-ends have no longer their normal individuality. The structures and conditions that made and kept them distinct are no longer present, and *articular* ankylosis is the inevitable result. There is no longer a joint-cavity and no longer toleration of motion. The success that is met in restoring a joint to usefulness in case of fractures finds no analogy in this class of ankyloses. In fracture the false ankylosis depends upon *peri-articular* inflammatory products, and even when in exceptional instances fibrous bands occur in crushed joints and are successfully overcome by motion, the intelligent examination of the subject will fail to find the slightest parallelism in the nature of the two subjects. In the arrest of the disease, in the cure by fixation, without abscess, necrosis, and distressing sinuses, the patient and physician have every reason for congratulation. The cure is indeed a most favorable compromise on the part of the disease; it shortens the confinement of the patient; while in all cases where the bone becomes seriously involved, some lead to an early grave, some to spontaneous cure after years of torturing and disgusting disease, while still others are relieved only by surgical interference.

Instead, then, of holding out to patients and their friends that a cure with a stiff joint will be a great misfortune, it should be rather regarded as the most fortunate termination possible; and great care should be taken when permitting the patient to leave his bed to see that a well-adjusted apparatus will secure a continuance of the means of rest that have led to so fortunate a result.

The cure by fixation includes, however, a still further question,—viz.: what relation shall the femur have to the trunk to yield the greatest advantages? When in exceptional cases the limb is *fixed* at a right angle to the trunk, we are apt to regard the subject with great commiseration; yet such a position is the most advantageous, under the circumstances, for a sedentary occupation. Such a one can sit with as great ease as with healthy joints. It is only when he walks that his misfortune is so apparent. The case cured with femur in direct line with the trunk has similar advantages when the occupation is mainly on the feet. Such cases receive but little sympathy when compared with the former class, yet the latter are doomed to a most unrestful posture when they desire to sit down. Such can only use the edge of a chair, and often find sitting more tiresome than standing. While, therefore, fixation in any position will be a great inconvenience in any walk in life, yet the position midway between those just described will probably, in the majority of cases, yield the greatest advantages.

Still another point in nature's cures is worthy of attention. With loss of function must be associated arrest of development. The limb, in common parlance, shortens, and thus by degrees necessitates a high shoe. The disparity in the limbs is due to the unequal lengths of the femur. By this arrest in the growth the knee is made to approximate the trunk, and the ankle, by the elevation of the shoe, approximates the position of the knee. Thus the shortening of the limb, which necessitates a high shoe, becomes a great advantage, since by such a result greater activity is rendered possible.

PHILADELPHIA, 1604 SPRUCE STREET.

THE SECOND VOLUME of Prof. Geo. V. Ellis and Mr. G. H. Ford's "Illustrations of Dissections" constitutes the current number of Wood's Library of Standard Authors.

A CASE OF FUNGOSITIES OF THE BLADDER CURED BY SCRAPING WITH THE FINGER:

WITH SOME REFERENCES TO THE LITERATURE OF THIS AFFECTION.

Read before the College of Physicians of Philadelphia,
March 1, 1882,

BY WALTER F. ATLEE, A.M., M.D.

THIS case is reported because it is a rare one, because it is instructive in a practical point of view, and because consultation with most of his works of reference would not assist the surgeon in benefiting a similar case as much as can be done by doing as was done here.

Miss S. B. consulted me in the summer of 1880, on account of painful and frequent micturition, with hæmaturia. She was born in April, 1861. Her father is a large, strong, and healthy man; her mother died when she was a child, after having suffered from many manifestations of scrofula.

She said she remembered to have felt occasionally a slight pain in passing urine from her earliest recollection. When 17 years of age she first suffered severely. Her urine then was very light in color, with no sediment, but with a strong odor. The pain was while passing the urine and after it had passed. After the emptying of the bladder there was a constant desire to pass something more. She became thin, pale, and haggard. When 18 years of age, some pus appeared in the urine, and occasionally a little blood. These symptoms increased to such an extent that she was obliged to keep her bed for several months. This rest, aided perhaps by medical treatment,—for she had always enjoyed the care and attention of our most experienced physicians and nurses,—made some improvement in her condition, so that she was able again to go out. All the worst symptoms, however, soon returned; and when I saw her in September, 1880, her state was a very serious one. There was constant inclination to empty the bladder, which could not be resisted oftentimes for more than a half-hour, and the loss of blood was considerable.

The urine, when examined at this time, showed pyoid bodies, epithelium from the bladder, and crystals of triple phosphate, together with blood-corpuscles in abundance. The blood was of a bright-red color, showing that the urine had not had time to produce those changes in color always produced by long contact with the hæmoglobin of the corpuscles.

With such symptoms, this case seemed clearly to be one of foreign body in the bladder, and the advice given was to attempt its removal without delay. For this purpose the patient was put under the influence of anæsthetics, and the urethra was dilated by means

of a pair of ordinary dressing-forceps, introduced, opened, and withdrawn as often as necessary,—this being, in my experience, the best way of effecting this dilatation.

When the finger was then passed into the bladder, nothing abnormal was felt,—no calculus nor distinct tumors,—except that about the fundus were a number of fungosities or soft growths, some of them more than a half-inch in length and about one line in thickness. These were carefully scraped off by the end of the finger and by the finger-nail. This simple operation resulted in the perfect cure of my patient, and until the present time there has been no symptom of a return of her disease.

I call the growths thus removed fungosities, and not villous growths, inasmuch as they were not like tufts of fine hair (*villi*), but resembled rather *fungi* or certain mosses. I have several times seen similar growths removed from the cavity of the uterus in cases where for years they had been the cause of alarming hemorrhage. They have, anatomically, the same fundamental structure as the mucous membrane whence they spring; they are simple excrescences of this membrane; they are formed of granular amorphous matter, of cellular tissue in small quantity, and of fibro-plastic elements; almost all have a large number of capillary vessels ramifying through them, and some are covered by epithelium. This epithelium is *on* the surface, *homologous*, and not *within* the subjacent connective tissue, *heterologous*, which is characteristic of epitheliomatous growths.

I said that one reason for reporting this case to the College was that consultation with most of his works of reference would not enable the surgeon to benefit his patient as much as was done in this case. In Holmes's "System of Surgery" it is said, "The indications are to allay pain, to subdue spasmodic action of the bladder, to prevent hemorrhage by internal remedies, and to counteract its effects on the system by chalybeates and nutritious diet. Astringent injections very carefully introduced into the bladder, such as weak solutions of acetate of lead or of nitrate of silver, may be tried. They are, however, not to be repeated more than once or twice, unless marked benefit is observed and signs of vesical irritation have not been produced by their employment."

This is the advice given in almost all surgical works, not only general but special. Even in Coulson's excellent work on "Diseases of the Bladder and Prostate

Gland," of which a sixth edition was published in 1881, we find nothing but a similar plan of treatment recommended. Though quite out of place, I will cite here the diagnostic symptoms given in Coulson's work between villous growths and calculus, as being the best and clearest I have ever met with. In all works the diagnosis of these growths is said to be extremely difficult. For example, in the "Dictionnaire de Médecine" it is said, "Fungus of the bladder may be suspected, but a precise diagnosis cannot be established." (Tome xxx. p. 744.) "The pain in calculus is most severe after the urine has been passed, but in villous tumors the discomfort is aggravated by fulness of the bladder and relieved by its evacuation. The pain in calculus is relieved by rest, which has little or no effect upon the symptoms of tumors of the bladder. The hemorrhage also in the latter affection is neither decidedly aggravated by movement nor relieved by rest. In villous growths the blood is generally pure; in hæmaturia due to calculus there is generally more or less pus mixed with the blood. Examination by the rectum or with a sound in the bladder causes pain in cases of villous growth and increases the hæmaturia, whereas the symptoms of calculus are not necessarily aggravated by these manipulations."

To return to treatment: Nélaton says, "In women it is sometimes possible to reach the fungus by dilating the urethra and the neck of the bladder. The case of Warner tying a polypus of the bladder in this way is recorded above; and in case of a fungous growth an analogous operation should be done."*

In Warner's case, above referred to, a polypus penetrated into the urethra of a young woman, and pushed out of the meatus. An incision was made, dividing the half of the urethra; the rest was dilated, and also the neck of the bladder; the tumor was drawn out and a ligature applied to the pedicle.

In the "Principles and Practice of Surgery" of Prof. Agnew, and in the third edition of Prof. Gross's treatise on "Diseases of the Urinary Bladder," revised by Dr. Samuel W. Gross, we are advised, when symptoms of papillary and polypoid fibromas are seen in women, to dilate the urethra by special instruments, and remove

* Pathologie Chirurgicale, tome v. p. 301.

them as may be found best under the circumstances of the case. Some eighteen cases altogether are recorded in these works where vesical growths were removed by various operations. Of the prognosis in such cases, Dr. Gross forcibly and truly says, "It is of the worst possible description. Death almost invariably follows from sheer loss of blood or the combined effects of hemorrhage and pain." Of the treatment he says, "Surgical interference is demanded imperatively, since without it a fatal issue is almost the inevitable result."

The best account I have met with of the flocculent excrescences or fungosities in the bladder is contained in the "Lectures on the Surgical Disorders of the Urinary Organs," by Reginald Harrison, second edition, London and Liverpool, 1880. Mr. Harrison refers to the paper of Robert S. Hudson in the *Dublin Journal of the Medical Sciences* for June, 1879, to that of Prof. G. Murray Humphrey in the "Medico-Chirurgical Transactions" for 1879,—which contains probably the best account to be found of the pathology of growths into the bladder,—to Mr. Norton's cases in vol. xii. of the "Clinical Society's Transactions," and to a paper of J. H. Roberts and C. De Morgan in vol. xxi. of the "Transactions of the Pathological Society," where the microscopical appearances are very beautifully represented. He also relates a case (p. 359) communicated to him by a Dr. Alexander, where chloroform was given and the urethra dilated; a wire écraseur was passed, and a large growth was removed; smaller growths were removed by the finger. Fifteen months afterwards it was necessary to remove some more by the finger, after which the patient remained well.

This case of Dr. Alexander is doubtless the same as that related in great detail in the *London Lancet* for August 17, 1878. The writer says he cannot find any other case recorded of removal of a villous growth from the female bladder, and quotes from Bryant's Surgery "that there is no cure for this affection; the surgeon can only relieve symptoms. The disease usually destroys life in about two years."

Enough has been said to show that cases such as I here report are rare, that they cause great suffering and, eventually, loss of life, that the means usually recommended fail in giving relief, and that an operation, easily performed, attended by no risk, and

followed by no bad consequences, does cure such cases, and that this operation appears to be very generally unknown.

One more observation may be permitted, indeed, seems called for, in this rather desultory paper: this is, that the history of a case such as is here related justifies us in looking favorably upon the resort to a similar proceeding in cases of similar disease in the male patient. An incision into the neck of the bladder, when so much suffering and so great danger to life are present, is surely justifiable. It is a matter of no great difficulty or danger. Even if it were found after the making of this opening that the diseased tissues could not be taken away, the patient would in all likelihood obtain some relief from the free passage afforded to the purulent and bloody discharges. There is a case recorded* where Billroth did this; and, encountering a fibrous tumor, the size of which was such that it could not be extracted through the perineum, he cut through the recti muscles above the pubic bone, made a transverse incision into the bladder, and then tore through the tumor near its base with the finger, and dissected out the pedicle. The patient was perfectly cured.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

SERVICE OF DR. JAMES H. HUTCHINSON.

Reported by GEORGE F. SOWERS, M.D.

SCIATICA.

GENTLEMEN,—I have to present to you this morning the case of A. G., single and a domestic, admitted to the house October 31, 1881. Her mother died of cancer, and her father of phthisis. She herself has had scarlet fever and smallpox: these, while she has never been strong, have left no traces of their presence. Two years ago she contracted malaria, this exhibiting itself in a decided attack of chills and fever. Last August, after having sat on a cold marble step, she suffered from severe pain in the back, which, after lasting and varying in severity for the space of three weeks, passed into the right leg, in which limb the pain gave rise to so much distress as seriously to interfere with her walking. Her general health was other-

* See British Medical Journal, vol. ii., 1875, p. 493.

wise good. Upon examining the heart and lungs when I first saw her, I found the signs all negative. The pain, we find, shoots along the course of the right sciatic nerve; she walks lame, and the skin is tender on pressure slightly made. Now, there may be in these cases of sciatica, especially if the case be what we may style indistinctly marked, some little difficulty in arriving at a satisfactory diagnosis. In the first place, we may be disposed to view a case as one of gluteal rheumatism when, as in this instance, these muscles are primarily and seemingly most involved, and when the pain commences, as it did here, as a sharp, shooting, rheumatic pain, and then degenerates into a mere soreness, more or less localized; but this error may be easily avoided in one way. Notice how your patients trace out for you the course and direction of the painful sensations: they will, as does the woman before you, unerringly trace out the course of the sciatic nerve, and insist that in a certain line is always the seat of pain. When such a history is presented for your consideration, you may rest assured that there is disease or 'neuralgia of the sciatic nerve. While this patient presented this condition of pain along the upper course of the sciatic nerve, together with tenderness of the skin, she was also found to present certain hyperæsthetic spots, localized over the points of emergence of branches of the sciatic, at the head of the fibula, and over the malleoli. These symptoms may be said to be pathognomonic of sciatica, and are apt to be associated, as is here shown, with convulsive twitchings of the muscles of the leg. In addition to these symptoms, we find that she complains of uncertainty in walking: this is due to loss of the sense of touch, or anæsthesia of the foot, which renders her unable to feel distinctly the floor or ground.

Analgesia, as well as anæsthesia, may be present in these cases. Indeed, in some cases in which the patient complains most bitterly of sharp shooting pains in the leg or foot, he will manifest no signs of pain when a pin is thrust into these parts. In these cases the first cause of the trouble—the exciting cause, as we say—is nearly if not quite always cold, applied commonly locally, as by resting on damp ground, stone steps, etc., the first effect generally being the production of a muscular rheumatism. Shortly afterwards we find that the

skin in spots over the sciatic is giving evidence of an hyperæsthetic condition, this symptom being shortly followed by the well-defined course of pain in the sciatic nerve, anæsthesia, analgesia, muscular twitching, and loss of muscular power, which in reality is apparent only, and not real, being due solely to the great pain experienced by the patient in locomotion. If, however, the disease last for some time, without the patient obtaining adequate relief, a real loss of power follows, this being in accordance with the well-known law of nature that the function of a part not used gradually undergoes retrogressive action: consequently, care must always be taken to watch narrowly the development of such an unfortunate termination. Now, in addition to cold as a producing agency in sciatica, there is another factor that may occasionally be the starting-point of the diseased action. We find here a woman who, having lived in a malarial section of the country for a season, contracted chills and fever. Following upon the development of this malarial outbreak, which was characterized also by frontal or orbital headache, which hemicrania in such cases is named brow ague, we find an attack of sciatica making its appearance. There can be no doubt that malaria pure and simple may in a given number of instances produce inflammatory actions in the sciatic nerve and its sheath, the poison exploding in its virulence upon these structures in preference to its more common seat in the frontal and orbital region. Either one of these neuralgias will get well, and get well comparatively rapidly, upon the almost specific treatment of malarial troubles,—namely, quinine. But in this case quinine alone did not seem to answer the purpose completely. While there was some slight improvement, it was not such a gratifying result of treatment as would be produced if malaria alone were being dealt with. Under such circumstances we are justified in supposing that the disease, having failed to respond to the therapeutic test for the presence of malaria, did not owe its origin to that cause, but that some other agent must be sought for to explain the production of the symptoms present. Now, the other most common cause of sciatica is the presence of the rheumatic poison, which may seize upon the nerve-sheath, which, swelling and giving rise to exudations, etc., produces pressure upon the nerve, thus

giving rise to pain in the body of the nerve, while at the same time permitting of the production of anæsthetic and analgesic effects. The question of treatment where rheumatism is supposed to be the exciting cause presents a different phase from what it does when malaria is the poison to be dealt with.

Iodide of potassium in such cases is beyond doubt one of the best agents we possess to influence the systemic poisoning, used either alone or coupled with the salicylates; the iodide must be given in decided doses, and pushed till good results are obtained,—that is, provided the stomach does not rebel, nor the system show saturation by means of the iodide eruption. Along the course of the nerve blisters can be employed very advantageously. Of course, when the pain is intense, we may have to resort to hypodermic medication; but we are considering to-day the systemic treatment more especially. In all these cases, however, there at length comes a time when internal medication seems to cease to be of any avail: we must then resort to other means of influencing the diseased action, which, having reached a certain point, seems to come to a stand-still. It is at this time that electricity, in the form of the continuous current, comes into play. Although I have not the same confidence in this agent as many other physicians have, still, in some cases I have known it to be of service, and, consequently, resort to it when other means fail. Where the system is more or less depressed, it must be built up by tonics, etc. In the case we are considering, in addition to the iodide the patient had administered to her six grains of quinine in the twenty-four hours, purely for its tonic effect. Under the treatment I have described, she has progressively improved, and I trust will be restored to a fair degree of health.

ACUTE RHEUMATISM.

The next patient is suffering from an entirely different kind of pain, and from a disease which, while it is perhaps at the root of a majority of the cases such as the one we have just closed the consideration of, yet manifests itself in its purity of type in the manner we see before us,—that is, as a purely inflammatory trouble involving the joints, and more particularly the larger joints of the economy, the diseased action being due to certain morbid changes in

the circulating medium on account of the presence of new materials, due, it is supposed, to malassimilation, which manifests itself by the presence and rapid development of lactic acid in the blood. This diseased action is known under the generic term of rheumatism, under which head are included the different varieties of the disease,—acute, subacute, chronic, and, by some, rheumatic gout. The case before us is a well-marked manifestation of that form known as acute rheumatism, which is characterized by the phenomena presented by the ankle we here see. The joint is hot and swollen; associated with which conditions there exists a certain amount of redness on the outer and inner sides of the ankle, though this latter condition is not so well marked as in the earlier stage of the disease, the case having progressed now somewhat towards recovery. The patient's history would seem to point to a good family record, and her own health has always been reasonably good, there being no specific disease, and no previous attack of the present trouble, which made its appearance after an exposure to wet and cold two weeks ago. Thus far, in this case there has been but one joint involved; but the tendency of the disease is to the involvement of a number of other joints soon after the onset of the disease: fortunately, however, the right ankle thus far has borne the brunt of the disease. It is not alone, however, the joints which are affected in rheumatism. In fact, were they the only parts affected by the disease, we should not have so much dread of it, nor such a long array of patients who have fallen a prey to its ravages. It would seem to have a peculiar predilection for attacking the valves of the heart and the pericardial sac, and is often in this the source of a good deal of suffering to the patient. Indeed, it is not infrequently the cause of his death. The longer the disease continues in its acute form, and the younger the patient, the greater seems to be the danger of this serious complication taking place. The unfortunate fact also exists that it is not in those cases alone in which the external lesions are most marked that the heart is implicated, but in the seemingly mildest cases the heart-lesion may also occur: it is hence not an uncommon observation that those in whom cardiac lesions are found have never been the subjects of a severe rheumatic attack.

In this case there is a slight blowing murmur. Now, does this necessarily indicate a serious lesion? Most certainly not; for it may simply point to a swelling, greater or less in amount, of the heart-valves. This murmur is heard in the neighborhood of the mitral valves, but does not seem to be due to any serious implication of the valves at this point. In addition, there is a murmur heard at the base of the heart and to the left of the sternum and occurring with the systole, but it also is not a sign, in this case, of serious import, and is simply due to anæmia. This murmur was frequently heard in former times, when it was more common than it is now to employ remedies which have a tendency to produce an anæmic condition of the blood. This condition when I first came on duty in this hospital, a number of years ago, was of no uncommon occurrence. At that time we employed the alkaline method of treatment almost exclusively, which, I may here say, gave usually excellent results, but unfortunately, it at times produced the most profound anæmia. If this case were in its early stage, where high fever and great swelling, etc., are present, I should have administered to her ten grains of salicylic acid every hour till one drachm had been taken, or twenty grains of the salicylate of soda every three hours; although it must be remembered that when thus administered it is apt to give rise to vertigo and soreness of throat. It is not of much use, however, to administer it late in a case where anæmia has set in as a complication: large doses of the tincture of the chloride of iron, as proposed by Reynolds, answer a better purpose.

If the disease were in the acute stage here, I would direct that the ankle of this patient be wrapped in raw cotton, or in a solution of the carbonate of potassa, either one of these agents affording great relief. Where the disease has a tendency to lapse into a subacute form, the inflammation retrograding to a certain point and then remaining stationary, small blisters about two inches square applied over the inflamed joint are sometimes of benefit. These blisters have been recommended in the acute stage of rheumatism; but in that stage the propriety of their use is questionable, and I am indisposed to employ them unless there is a tendency for tenderness to linger in the joint.

TRANSLATIONS.

DIAGNOSIS OF CEREBRAL CONTUSION.—

In a clinical lecture in *Le Progrès Médical* (No. 6), M. Duplay distinguishes between the signs of commotion of the cerebral substance from an injury and those properly belonging to contusion of the brain, which are generally confounded or grouped together. He concludes that in some cases we may suspect contusion in an individual who, at the same time with the symptoms of commotion, presents convulsions, contractures,—say of the muscles of the face,—or paralysis of one side of the body or of certain muscular groups; but in the majority of cases, and for a certain length of time, in order to affirm the existence of a contusion, it will be necessary to await the onset of symptoms of inflammation.

The signs that have hitherto been given as belonging to contusion of the brain by all writers upon the subject are mainly those arising from commotion of the brain. Contractures of muscles which are more or less general,—i.e., not definitely localized so as to correspond with lesions of the well-known cortical centres,—however, are probably due to irritation of the nerves of the dura mater,—a condition also capable of explaining certain vascular reflexes, such as spasms or congestive paralyses of the vessels of the cerebral hemispheres or of the optic globes. This point should be borne in mind in the diagnosis from the ophthalmoscopic appearances of the retina, in order not to attribute to cerebral disease what in reality is due to congestion or inflammation of the meninges.

STRAMONIUM - POISONING.—A six-year-old child, having eaten some of the leaves of the thorn-apple (Jamestown-weed), was brought into the house in a condition resembling intoxication. Dr. Rubio found him stupid, crying out with expressions of fright, as if in a nightmare,—having illusions of dogs and snakes being after him,—disturbing him at times from a deep lethargy. After a short rest he threw up his arm and laughed, as if playing with his companions, and finally sank into a deep sleep, which continued, in spite of all efforts to rouse him, for eight hours. When he awoke he was better, and convalescence rapidly supervened. The morbid appearances observed were: primarily the skin was somewhat reddened; temperature, 37.8° (C.); face strongly drawn, at first with

painful and afterwards stupid expression; pupils enormously dilated; constriction of the pharynx; dry tongue; pulse 95, hard, full, and frequent; respiration superficial and rapid; finally, involuntary micturition. In the second period, skin was pale; temperature 36.2° ; pulse 45, compressible; heart-sounds dull; stertorous respiration (45 in the minute). The attendant excluded belladonna-poisoning, partly on account of the rarity of the presence of belladonna in the neighborhood, partly on account of the transitory character of the redness of the skin, and the rapid appearance of pallor. The treatment consisted in irritation of the uvula, which produced vomiting, the use of stimulating enemata, and the administration of laudanum, and, later, of coffee and glycerin emulsion.

Upon this observation Rubio bases the conclusion that stramonium is at first a temporary stimulant, but secondly, and for a longer time, it acts as a paralyzing agent.—(*El Siglo Med. and Deutsche Med. Zeitung*, February 23, 1882.)

BAPTISTE-JACOB, THE NEW SIAMESE TWINS.—The brothers Tocci, born in Turin in 1877, are considered to be even more curious than the famous Siamese twins. They have two well-formed heads, two pairs of arms, and two thoraces, with all the internal organs; but at the level of the sixth rib they coalesce into one body. They have only one abdomen, one umbilicus, one anus, one right and one left leg. Their genital organs consist of a penis and scrotum, and at the back there is a rudimentary male genital organ, from which urine sometimes escapes. It is a curious fact that the right leg moves only under the control of the right twin (named Baptiste), whilst the other leg is movable only by the left twin (named Jacob). As a result, they are unable to walk. This left foot is deformed, and is an example of talipes equinus. Each infant has a distinct moral personality: one cries while the other is laughing; one is awake while the other sleeps. When one is sitting up, the other is in a position almost horizontal.—*Presse Médicale Belge*.

TOPICAL APPLICATIONS OF ALCOHOL.—In *La France Médicale* (No. 28) M. G. Olive speaks very highly of alcohol in acute inflammations of cellular tissue and of serous membranes, and especially in peritonitis. Alcohol, as pure as possible

and concentrated (80° or 90°), is to be applied upon compresses of cotton wadding, or tarlatan, folded several times and made to fit the surface: these are wetted and reapplied every three or four hours. Two cases are reported—one of pelvi-peritonitis, the other of phlegmonous inflammation of the neck—in which this dressing not only relieved pain, but also retarded the development of the disease and hastened recovery. From an extended experience of other cases during several years, among which are those of phlebitis, lymphangitis, and acute hygroma, the writer is disposed to value alcohol very highly as a topical application. The discussion of its mode of action he reserves for a future time.

PERMANGANATE OF POTASSIUM AS AN ANTIDOTE TO SERPENT-VENOM.—A recent communication to the Académie des Sciences, Paris, by M. de Quatrefages, calls attention to the value of the discovery of M. de Lacerda, of Brazil, that the hypodermic injection of permanganate-of-potassium solution is an antidote for snake-bite. The remarkable results already reported have now been confirmed by other observers in Brazil, and by Dr. Courty, of Paris. M. de Lacerda insists upon the importance of the extemporaneous preparation of the solution, and advises the preparation of small packages (1 gramme) of the salt and a bottle containing 10 grammes of water, thus making a one-per-cent. solution. The injection is made, after the limb is surrounded with a ligature, with the Pravaz syringe (℥ xv), into each wound made by the teeth of the reptile; and if the limb is already swollen, other injections are practised in the margin of the tumefaction, or, it may be, thrown directly into a vein.

SYMPTOMS OF TRICHINOSIS.—Prof. Germain Sée (*La France Médicale*, No. 14), in a clinical lecture on the recognition of trichinosis, lays especial stress upon muscular pains, with prostration, and swelling of the face. He says that these are constant even where gastro-intestinal symptoms are wanting.

AN IMPROVED URETHROTOME.—Dr. Jardin, in an article upon urethral stricture (*La France Médicale*, No. 17), describes and figures a new instrument, a flexible-stem urethrotome, which appears to have especial advantages in appropriate cases described in the paper referred to.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, APRIL 8, 1882.

EDITORIAL.

A NURSE REGISTRATION BUREAU IN PHILADELPHIA.

THANKS to the labors of our excellent training-schools, there are a number of skilled nurses engaged in pursuing their avocation in this city; not by any means so many as there should be, but, as the demand for them becomes more imperative, it is evident that their ranks will grow larger. In addition to these, there are others less qualified, but who have acquired sufficient ability to receive the endorsement of physicians. There are others, we regret to say, that are less deserving, and not a few positively unworthy of confidence. The difficulty of obtaining a competent nurse in a case of emergency, or even under ordinary circumstances, has been experienced by almost every practising physician; and even if a reputed nurse be engaged, after much skirmishing, it sometimes becomes a matter of regret that some means had not existed that would have enabled the physician to acquaint himself previously with the qualifications, and the family to learn something of the antecedents, of the comparative stranger.

It has been acknowledged for some time that there is an obvious want of some central authority here, as indeed in other large cities, that would provide nurses on demand, keep a record of their qualifications, engagements, and, to a certain extent, of their conduct,—perhaps with physicians' comments upon their abilities and behavior.

The conviction that such an institution with us is not only desirable but attainable has been greatly strengthened by the successful working of a nurses' registry in

Boston, which has now been in operation for two years, and has proved a great convenience to the nurses as well as to physicians and patients.

With this example in mind, Dr. S. Weir Mitchell at a recent meeting (in January) of the College of Physicians offered a resolution that a committee be appointed to consider the feasibility of the plan of carrying on a similar organization in Philadelphia. The committee subsequently reported in favor of the scheme, and detailed a plan which would enable it to be carried on under the authority of the College, which was adopted. The committee appointed to take charge of the Nurse Registration Bureau consists of Drs. W. W. Keen, S. Weir Mitchell, and Albert H. Smith, from whose earnest and energetic management good results may be reasonably expected.

Some alterations will be required at the College building in order to accommodate the new bureau, which, therefore, will not commence operations until about the 1st of May. Miss Emily Thomas, now an assistant librarian to the College, has been appointed secretary of the organization, and will reside upon the premises. The register will be accessible at any time upon the payment of a moderate fee, which will be smaller during the day than at night. It is proposed to keep a full record of qualified nurses and of their engagements, so that it can be at once ascertained whether certain ones are occupied or not, and also what nurses are disengaged at any time. The fact that confidential communications may be made regarding the conduct of nurses will exert an excellent influence upon some who are now without much restraint.

Among the changes that will be required in connection with this, are the introduction of a telephone, the attendance of a College porter or messenger, the establishment of an office, possibly of a conversation- and smoking-room for the Fellows,

and other needed improvements. It is believed that the increased activity at the College will warrant opening the library regularly during the evenings. There are also signs of promise of increased usefulness of the Mütter Museum, whose riches are known at present to but very few even of the Fellows of the College. The Nurse Registration Bureau is in the line of the movement of reform that has been quietly gaining strength during the last few years. Whatever may be its advantages to the public and to the profession,—and much has been anticipated in this direction,—it certainly will react to the welfare of the College of Physicians. It was announced at the last meeting that subscriptions had been received from friends of the movement sufficient to meet all its expenses for the first year. With such prospects, and under such able and energetic management, the success of the registry may be regarded as already secured.

COMMENCEMENT EXERCISES.

IN all educational institutions the supreme day of each recurring year is that on which its highest honors are conferred upon its students in testimony of ability, industry, and faithful performance of duty. Regarding the appropriate ceremonies that shall fully celebrate the importance of the occasion and best express the feelings of the neophyte and his friends of both sexes, there is much that might properly be said in favor of making the occasion a memorable one, and hence as unlike ordinary days as possible. In university towns the morning of the commencement ushers in a gala-day, and the student is the lion of the hour and the centre of crowds of admiring visitors. In cities of large size the graduate is of relatively less importance, though perhaps not in his own estimation. It is very evident, however, that exercises which may very properly characterize the great occasion under a certain set of circumstances

will bear considerable modification under others; and in the progress of time a feature of the entertainment that would only be pleasant and agreeable at first might develop into a nuisance that would become intolerable. This has, we believe, taken place in one particular that has so long been a part of the programme of the medical college commencements in this city. When classes were small, a few flowers upon the platform added to the æsthetic delights of the occasion, although considerably more appropriate at the commencement of the Women's College than of the sterner sex. At all times the ubiquitous lily projecting from the apex of a cone of wired blossoms is more suggestive of callow youth than of sober manhood. When the classes grew larger, the bunches of flowers grew more numerous and developed into crosses and other complicated, expensive, and inconvenient designs. Baskets of fruit, some real, some in wax, made their appearance, and then packages in abundance, supposed to contain books and instruments, came in swarms and covered every available place on the stage, and consumed valuable time in their delivery. It was observed that many of the packages contained the stamp of well-known dry-goods houses: evidently articles of wearing-apparel were now added to the list. Not only this, but it has been more than hinted that students, seeing the opportunity for a practical joke, have prepared parcels resembling jewelry, etc., for their graduating friends, but which in reality contained anatomical specimens from the dissecting-room and other choice mementoes of student-life, of more or less value,—generally less,—but which were duly delivered with the others.

Apart from the obvious partiality shown in the flowers and parcels delivery,—the best student by no means receiving the greatest number of floral offerings,—the whole thing is inconvenient, absurd, and out of place; and what was at first a pleas-

ant custom has now grown into an abuse. Considerations of this character led the graduating class at the last commencement of the University of Pennsylvania to discard entirely flowers and gifts other than prizes,—a wise and considerate action, which deserves to be copied. At another commencement recently held in this city, the flowery nuisance and package-party feature occupied its customary prominent place, and the students retired loaded down with their blushing honors, their sunflowers and lilies, their Bibles and visiting-lists, their packages of forceps, neckties, and amputated fingers, as usual. The faculty, students, and audience would be well pleased were this custom obsolete.

THE RESIGNATION OF PROFESSOR GROSS.

ON March 28, the resignation of Prof. Gross from the faculty of Jefferson Medical College, in which he has occupied the chair of the Institutes and Practice of Surgery for the last thirty-four years, was placed in the hands of the President of the Board of Trustees, Dr. E. B. Gardette, with the intimation that the action had been well considered and was final. The Trustees, at their meeting on the following day, passed resolutions accepting the resignation and unanimously electing the distinguished surgeon Emeritus Professor of Surgery. Acknowledging the inherent difficulty of selecting a fitting successor to Prof. Gross, the Trustees cut the Gordian knot by dividing the duties of the chair between two prominent surgeons that have long been connected with the college, as lecturers and colleagues on the Hospital Staff. Dr. Samuel W. Gross was elected Professor of Principles of Surgery and Clinical Surgery, and Dr. John H. Brinton, Professor of Practical Surgery and of Clinical Surgery. It is believed that the new professors, whose appointment creates general satisfaction,

will divide the duties of the clinic between them.

WE would call attention to the letter, which we print in another column, from Dr. Brush, detailing the recent attempt to assassinate Dr. Gray, of the Utica Asylum. It is, at present writing, altogether probable that the assailant was insane. The escape of Dr. Gray was a very fortunate one, and has called forth much congratulation and sympathy from his numerous friends.

WE are very glad to notice a second edition of Prof. Palmer's "Homœopathy: What is it?" published by Mr. George S. Davis, of Detroit, Mich. We know of no book more worthy of circulation as a tract by the profession.

CORRESPONDENCE.

LONDON LETTER.

IN my letter which appeared on the 11th of February last, some account was given of a case of aneurismal dilatation of the aorta. Under the plan of a spare dietary and sulphate of soda, with a little iodide of potassium, the case did well, and there was much return to the normal shape and size of the aorta by the recovery of the arterial wall in virtue of its own elasticity when the internal distending force had been reduced by the treatment. This is so important a matter in the treatment of aneurismal swellings that I wish to say a little more about the case. It was stated before that the observations of the late Prof. Parkes showed that the presence of albuminoid matter in the blood raises the blood-pressure,—an observation quite in accordance with what has been noted by others. Not only this, but he demonstrated that a non-nitrogenized dietary positively led to a diminution of the blood-pressure. Now, this is very instructive when placed side by side with the usual history of aneurisms. Aneurism, apoplexy, and angina pectoris are diseases of middle age and advanced life,—conditions commonly found with an hypertrophied left ventricle and hard arteries, the associations of high-blood pressure within the arteries. Such being the facts, it is clear that the plan of treating aneurism, linked

with the names of Albertini and Valsalva, has much to recommend it beyond the mere reduction of the blood-stream within the aneurismal sac and the deposit of layers of fibrin upon the aneurismal wall. No doubt this end was frequently attained, and the sac passed from a pulsating fluid tumor to a firm, hard ball of fibrin, and then the aneurism was "cured." Such end was all the more likely to be attained when the aneurism was due to an atheromatous patch on the tunica intima giving way, and the outer coats yielding, giving rise to a globular sac. But the cure of fusiform aneurisms and aneurismal dilatations by the deposit of layers of fibrin on the arterial wall seems somewhat problematical, though this is quite feasible and intelligible in globular aneurisms with a restricted orifice. In cases where the arterial wall has yielded to an internal distending force acting mainly upon the outside of curves, as the convex surface of the aortic arch, the hope of restoration and repair lies mainly in the recovery of the elastic wall by the reduction of the distending force. Properly to conceive such yielding of the entire wall, or true aneurism, whether fusiform or globular, we must think of atheromatous change in the arterial walls as a general condition,—apt, however, to be most pronounced in the aortic arch, and at points of flexion, as the axillæ and the popliteal and femoral spaces. No doubt, too, syphilis has much to do with the atheromatous process; and so has excessive indulgence in alcohol, especially when combined with good living. Now, if atheroma be a wide-spread degenerative change, only locally more pronounced at certain points rather than elsewhere, it is clear the treatment of it and the resultant complications must rest upon some means of affecting the general condition. The reduction of the internal blood-pressure is, clearly, the thing to be aimed at. Perhaps it will be most instructive to the reader to pursue the further history of the above case so far as it is at present known to me. The letter in which some details were given had not left the American shore on its return journey to England before the catastrophe I there said was to be apprehended actually occurred. A well-known member of the profession called upon me, asking if I remembered the reverend gentleman. Perfectly, was my reply. Would I object to telling him what I knew of the case first? and then he would tell me what he knew about it. So a sketch of the case was briefly given, and stress laid upon the dietary as an essential factor in the treatment. He listened attentively, and then told his part of the story. He had been telegraphed for to a well-known sea-side resort on the southern coast to see the patient. He found him sitting up, being unable to lie down, spitting blood freely, with congestion of the base of the left lung, and a huge pulsating

bulging under the left scapula. This was what the good lady had achieved with her misdirected energy. In the former letter is written, "There is no moral doubt that, with the best intentions in the world, the devoted wife is doing her best to increase the blood-pressure within that impaired aortic arch by feeding him upon sustaining victuals, with the immediate result of his feeling better for the time. But the result is not one difficult to calculate. The aorta will soon yield again, and ultimately rupture, just as an old boiler bursts when the pressure of steam within it is high enough." Well, the rupture may or may not have taken place yet,—or may never take place, because the patient will not live long enough. But the first part of the forecast has been realized with terrible swiftness. The more liberal dietary has increased the distending power of the blood-current, and the aortic wall has yielded under it. It adds to the interest of the case to know that the bulgings at the carotid roots have passed away. Under the treatment they were much reduced, especially the left side, and the huge dilated aorta, once to be felt distinctly in the sternal notch, had been reduced till it could no longer be reached by the finger. But when the new aneurismal bulging was established, the old mischief in front was "all quiet and flat," my informant told me. When thus further relieved, the elastic coat soon recovered itself. There are two matters involved in this which are not uninteresting as a contribution to our acquaintance with the natural history of aneurism. The first is, that when the blood-pressure was once more increased the bulging did not reappear at its old seat. Possibly this was due to the wall at the bulgings being strengthened by a deposit of fibrin, and another area had become the point of least resistance. If this is the veritable explanation, then comes this second matter. If the arterial wall was so strengthened by this layer of fibrin deposited on it, how does it happen that the bulgings passed away, so that all was "flat"? It could only have been by further diminution of the distended arterial wall by virtue of its own elasticity, which overcame any opposition set up by the layer of fibrin. Anyhow, as it stands, without any further details, the case has a history which clearly teaches an important lesson. It tells us, in unmistakable accents, that the associations of aneurism are such that the first indication in the treatment is to lower the blood-pressure within the arteries. Albertini and Valsalva bled and starved; and a very good, if heroic, plan it was. Though their especial aim was the furthering of a deposit of fibrin, they attained by these means a marked diminution of the arterial tension; and this, again, led to the diminution of the aneurismal sac by the resilience of the elastic fibre of the arterial wall. An

aneurism is a most serious thing under all circumstances, and the sooner it can be dealt with the better. To starve, even to bleed, if indicated, and absolute rest, as absolute as is necessitated by a broken thigh, are the measures which commend themselves from the moment any yielding of the arterial walls is gravely suspected.

There is a matter of diagnostic moment which has been forced upon my mental processes during the last couple of years especially; and that is mitral stenosis in advanced life. With mitral stenosis in the young as the resultant product of rheumatic fever we are all familiar. There is the characteristic murmur, presystolic in time, long, as the ventricle slowly fills, often accompanied by a thrill from the vibration set up by the blood-current and conveyed by the blood-stream away to the right apex. There are other points; but these are sufficient to identify the correlative pathological condition and to tell us that the lesion is obstruction and not regurgitation. Indeed, the diagnosis of mitral stenosis has rather been obscured than cleared by the many signs which some have given as necessary to its correct recognition, and so there is an impression abroad that there is something mysterious and difficult about the diagnosis of mitral stenosis. If the general practitioner wishes to be quite certain about any mitral murmur, let him further remember that a mitral obstructive murmur is heard better to the right of the left apex, a mitral regurgitant away to the left, even to the spine in many cases. A mitral obstructive murmur, when not loud and long, is heard over only a comparatively limited area,—so limited that it is easily overlooked if its precise locality is not borne in mind. A hasty examination of the heart is very apt to overlook a faint mitral obstructive bruit. Then, again, in mitral regurgitation the pulse is irregular in volume, according to whether much or little blood regurgitates in each systole through the wide mitral ostium, insufficiently closed by the valve-curtains, often themselves deformed by valvulitis; while in mitral stenosis the pulse is small but regular. George Balfour, the eminent Edinburgh authority on the diseases of the heart, has found in his experience considerable irregularity in the pulse in mitral stenosis; but in this his experience is not in unison with that of London writers on the subject. The pulse, indeed, of mitral stenosis has little in it to arouse suspicion. Frequently it is not to be distinguished from the weak, small, compressible pulse of asthenia. Consequently, in many instances the mitral lesion is not detected. This is a matter to be regretted, as the presence of the mitral mischief is important prognostically. At times, doubtless, it is an old static affair, the consequence of some by-past valvulitis, slight in amount, and with

little significance attaching to it. But, unfortunately, these are not its only associations. Very frequently its causation is entirely different; and some discussion of those other circumstances under which mitral stenosis is found as a grave and serious matter is permissible. It is now a well-recognized fact that strain is a common exciting cause of inflammation of the valves of the heart. Sometimes the injury done is acute, going on rapidly from bad to worse. More often it is limited, and, soon becoming quiescent, the patient is little worse, and the injury done is felt only on exertion, as Latham long ago pointed out. Such a case is well known to me. The lady, famous in the literary world, had a slight mitral obstructive bruit. This dates back some ten years, and was brought on by severe effort, going in search of a medical man under great emotion and not readily finding one. She was ill after the effort, and the bruit was then heard; and ever since she has had some dyspnoea, with palpitation, on effort. When quiet at her desk she knows nothing of her heart. Strain has been more particularly recognized as being associated with aortic disease, especially regurgitation. The association of aortic valvulitis leading to insufficiency of the cusps, with more or less of dilatation of the aortic conus, with sustained effort, is well known to all. But the relations of mitral valvulitis to strain are not nearly so widely recognized. Yet an extending experience tells me that such relation is far more frequent than is generally credited. The mitral valve-curtains bear the strain of the contracting left ventricle on each systole. When the left ventricle is hypertrophied, and its contraction consequently more powerful (to overcome the resistance set up by a high blood-pressure in the arteries), then the strain on the mitral valve-curtains is increased. Under these circumstances, can we be surprised if they become the seat of valvulitis? Such valvulitis, too, is progressive, as a rule,—perhaps slowly in many cases, but nevertheless tending to move onward to further and further deformity and mutilation of the valve-curtains. The lesion may take the direction of enlargement of the ostium with contraction of the free edges of the valves, until insufficiency is reached. Or the morbid process may sweep along the basal attachments of the valve-curtains, soldering the two segments together, and ultimately fusing both valves into a finger-like cone pointing in to the left ventricle, perforated by a channel with rough surfaces. When such a lesion is established, then there is the long murmur with some vibratile thrill. But as years advance the march of pathological processes is slower than in youth. A considerable progress has been made before such evidences of morbid changes are furnished. There is a history of organic mischief before it becomes sufficiently pronounced to give rise to a murmur.

This has been denominated by me, elsewhere, "the premurmuric stage of valvulitis." And when the pathological process has become sufficiently established to give rise to a murmur, that murmur at first is soft, low, and heard over a very limited area. Often it is possible gravely to suspect valve-changes being afoot before the significant murmur can be detected. We are not yet, however, sufficiently advanced in our acquaintance with cardiac pathology positively to recognize valvular lesions in the absence of a murmur; and yet in many cases the murmur is but the corroboration of a diagnosis formed from other data. The diagnosis of diseases of the heart is not a mere question of murmurs; at least, so a very eminent authority on the subject and myself agreed the other day when discussing the precise nature of a case we saw together. But what a teacher who promulgated such a view could do with a class of students is as incomprehensible as the view over the terminal edge of the universe. But when the student has completely mastered his murmurs, he may probably advance to some rational comprehension of the various morbid changes in the heart, and begin to think about the heart as a muscle subject to the conditions which affect muscles generally. Anyhow, he may begin to believe that there is something else than a murmur to be calculated in the diagnosis of cardiac affections. It is not my intention here, however, to discuss the "pre-murmuric stage" of valvulitis, but rather the more advanced condition when a murmur is actually present,—a small, brief, scarcely audible whiff, heard over a very small area, ordinarily not an inch square. This is a broad sketch of the circumstances under which this murmur is usually heard; and experience is telling plainly that the condition is one more frequent than is supposed. A man up in years has begun to fail. He is not capable of the exertion in which he previously delighted. He cannot climb a hill very comfortably, and finds mounting the stairs a task. Yet he has no palpitation, nor is the pulse irregular or intermittent. He consults his medical man: a cursory examination of the chest follows, nothing is discovered, and the opinion given is that it is a case of general debility, requiring rest. The advice is followed, with satisfactory results; but when work is resumed it soon becomes clear that there is something definitely wrong. A consultant makes a careful examination, and then the mitral whiff is discovered. When the heart was first examined, probably the consultant would have found nothing; but the disease has advanced in the mean time, and his diagnosis is readily corroborated by the ordinary medical attendant on re-examination. Now, there is nobody to blame here; but, as human nature stands at present, it is very likely that somebody will, sooner or later, suggest that

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the ordinary medical attendant was either careless in his examination, or is not an adept at the detection of incipient cardiac disease; and not unlikely this is repeated until a certain number of persons believe it, and undeserved injury is done to the medical man. Perhaps, too, there was a murmur established at the time of the first examination which was overlooked. In such case much may occur that is afterwards the source of unavailing regret. When a man up in years is obviously failing, and at the same time a cardiac bruit is detected, the lookout is decidedly dark and full of cause for just apprehension. The early recognition of the actual state of affairs may enable him to make business arrangements which can only be made at a great sacrifice if delayed till his health is obviously broken. It is not so much that can be done for such cases by treatment,—though of course rest is of great service, and that regimen and dietary which will keep the blood-pressure in the arteries low,—as in the business aspect of the case. Say it is a medical brother. If his mitral lesion is detected early, he can set to work about retiring from practice, introducing a successor, etc., all of which is good for everybody, patients and doctors alike; and then he can lead a quiet life, which is conducive to his living as long as the nature of the case will permit. If the case goes on undetected, the poor doctor struggles on with an assistant, and, when the inevitable break-down comes, everybody is more or less taken by surprise, and such arrangements have to be made as the circumstances permit. This is very important for all concerned; and though, of course, a diagnosis which leads to practical therapeutic benefit to a patient is always the most gratifying to the practitioner, still it is something to have prevented trouble which otherwise would in all probability have arisen had the precise pathological condition not been observed in good time. In all cases of thoracic disease it is well, yea, it is very well, to count the pulse and the respiration and take the ratio. When the ratio is preserved, yet both accelerated, it is well to take the temperature. When, however, the temperature is normal and both are not accelerated, then look for the reason why the one is. When the pulse rises in rapidity while the respiration is normal, the condition of the left ventricle and the mitral orifice must be carefully examined. But when the opposite condition is found,—when the breathing is accelerated and there exists no obvious lung-condition to account for it,—then, depend upon it, the thoracic space is diminished from some cause, whether it can be discovered or not. Not uncommonly it is possible to suspect some damming of the blood at the mitral orifice, which leads to an overfull condition of the pulmonary circulation, and the excess of blood limits the thoracic space. Then listen to the closure of the pul-

monic valves: hear what they have to say. Your suspicions may be confirmed, and perhaps after a while a mitral whiff develops to settle the matter. Conversely, when you catch a mitral murmur, and the respiration is not accelerated nor the pulmonic valve-sound accentuated, the lesion is small, no matter how loud the murmur. Finally, it is quite possible at times to apprehend mitral stenosis before a murmur is audible. Often the murmur is to be heard only when carefully sought for.

J. MILNER FOTHERGILL.

THE ASSAULT UPON DR. GRAY.

UTICA, N. Y., March 29, 1882.

MY DEAR DOCTOR,—Your letter is at hand, and I hasten to comply with your kind request for some information regarding the assault upon Dr. Gray for publication in the *Times*, first thanking you for your kind words of sympathy and congratulation.

Dr. Gray returned from Washington at 5.45 on the evening of the 16th instant, where he had been to consult with District-Attorney Corkhill on the medical portion of the bill of exceptions in the Guiteau case. After tea he came down-stairs to his private office. At about five minutes after seven I stepped across the hall from the library to give him his personal mail, which had accumulated in his absence. I found him seated at his table, facing Dr. Gibson, the chaplain of the institution, who was reading to him a translation of one of the odes of Horace, which he had made. At a corner of the table, and at Dr. Gibson's right, stood Dr. Blumer (of the staff), whom you know, and at Dr. Gray's right, and a little behind him, stood Mr. John P. Gray, Jr. Just as I left the office, after explaining one or two letters to the doctor, he reached across the table and took the manuscript from Dr. Gibson and leaned forward to examine it. I think I could hardly have been away five minutes before the assailant entered the front door of the asylum and passed leisurely down the hall, glancing into the library as he went, to Dr. Gray's office. Stepping just within the door, which stood open, he raised a large navy revolver, carrying a No. 38 calibre ball, pointed it at Dr. Gray's head, and fired, and, turning rapidly upon his heel, left the building. He was immediately followed by Dr. Blumer and Mr. Gray. As they reached the portico of the asylum the assailant was some twenty or thirty feet down the lawn, where he stopped and fired again and disappeared in the darkness. Dr. Russell, who was seated in the library across the hall, gave immediate attention to Dr. Gray, and word was sent to me in the wards. Hemorrhage at first was quite profuse, the blood coming from both bullet-holes and from his mouth and nose. An examination revealed that the hemorrhage

from the mouth came from the posterior nares, and that no important vessels were wounded and possibly no bony structure injured. The ball entered the face over the left malar bone, three-eighths of an inch below the external canthus of the eye, passed diagonally down back of the nose, just above the anterior nasal spine of the superior maxillary bone, emerging in the centre of the right cheek two and a half inches below the external canthus of the right eye, and about half an inch back of a vertical line dropped from that point. In its passage the ball injured some portions of the nasal and labial branches of the superior maxillary nerve, and at first there was complete anæsthesia of the left side of the nose, and of the left upper lip, with some hyperæsthesia of the right half of the upper lip. This condition continues, but in a less degree. There was immediate infiltration into the tissues about the left eye, so much so, indeed, that, though I attempted to examine for any injury to the globe which might be present from powder-burns, it was with great difficulty I was able to separate the lids. In a short time the right eye was in a similar condition, and the whole face distorted beyond all recognition. The left side of the face was quite filled with powder, so close was the pistol held to the head when fired. The treatment consisted in the constant application of iced cloths for the first forty-eight hours, and in securing constant and thorough drainage through the nose. We have given him quinine, light but nutritious diet, and moderate stimulation. In two or three days the swelling subsided markedly, and at the end of a week the infiltrated material had been absorbed to such a degree that the track of the bullet through the tissues of the face could be easily discerned. The left lower eyelid is still quite œdematous. The bullet-wounds united for a greater portion by first intention, and the discharge has been very slight from either the orifice of entrance or exit. The temperature has never reached above 100°, and only attained that point on the evenings of the third and fourth days after the injury. The morning temperature has never exceeded 99.8°. At the time of the accident, Dr. Gray never for a moment seemed to lose self-possession. His pulse was even, and ranged between 80 and 90. As well as he could, he assisted us by suggestions in the treatment of the case, and aided himself in every possible way. He is now sitting up a portion of each day. The openings into the anterior nares are closing nicely by granulation, and the orifices of exit and entrance have diminished markedly in size and are looking excellently well. There is still considerable discomfort and pain, but through it all the doctor has manifested a remarkably cheerful and hopeful disposition, although for the first few days we who had the care of him were extremely anxious.

The assailant has been indicted for assault with intent to kill, and a commission, composed of Hon. Wm. H. Bright, of this city, Dr. Thomas M. Flandrau, of Rome, and Dr. Carlos F. MacDonald, of the State Criminal Asylum, Auburn, has been appointed to examine him and report to the court. If you desire, when they have made their report, I will inform you of the result.

E. N. BRUSH, Asst. Phys'n.

OBSTETRICAL WARDS OF PHILADELPHIA HOSPITAL.

EDITOR PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—You requested me some days ago to give you a statement of the mortality in the obstetrical wards of the Philadelphia Hospital. I have thought it sufficient, as serving all purposes, to collect those cases only for the past decade, simply because the accusation made in one of the Philadelphia papers of a large mortality-rate was based upon that period, and because my own individual experience would enable me to verify the records. I am indebted to Dr. C. W. Milliken, Resident Physician, for the figures I send you.

From January 1, 1871, to January 1, 1882, —a period of eleven years,—two thousand and forty women were delivered in the house. Of these, fourteen hundred and fifty were single, and five hundred and ninety were said to be married,—but in all probability the majority of these also were single women.

Of course most of the single were primiparæ, and among these were many forceps cases, tedious labors, varied presentations, etc. There were thirty-four twin labors.

The total number of children born during this period was two thousand and seventy-four.

From January 1, 1871, to January 1, 1875, there were thirteen hundred and sixty-seven confinements. The mortality during this period among the women was twenty-five, all reported as single, making an average of 1+ per cent. But few of these cases died of disease incident to delivery, for we find them entered as peritonitis, pelvic cellulitis, septicæmia, scarlet fever, uræmia, hemorrhage, rupture of uterus, œdema of lungs, pneumonia, and phthisis. Some of these deaths occurred in women who were in labor when admitted, or those who had been abused and maltreated before entrance to the house. Others, again, had suffered from constitutional disease long before their admission to this department, having been treated on the *venereal floor* at various periods.

Again, woman have been confined who were habitual debauchees, and some were in advanced intoxication during labor itself. In fact, many have belonged to the *slums*, and

have been admitted to this institution,—the only one which exists for them,—have been associated there with those of a better class who have fallen, contaminated the latter, and dragged them still further down by their association, and, as our case-books show, given us diseases and also mortality.

In 1877, puerperal septicæmia showed itself in almost epidemic form, possibly originating from a case of facial erysipelas and one of malignant scarlatina. Including these cases, we find altogether sixty-seven deaths until January 1, 1882, a period of eleven years, which gives us a mortality record of three and one-third per cent. In 1877 alone thirteen deaths occurred from "puerperal fever." But it may be remarked that at least thirty of these deaths—those due to puerperal fever, peritonitis, and scarlet fever—occurred during two marked epidemics (the one and most fatal having arisen from a case of scarlet fever which originated outside and developed immediately after confinement); and, deducting these cases from the number, it would give us the average death-rate per cent. for eight years as four deaths in every three hundred confinements. All these figures have been based upon the statistics taken from the books until four weeks after delivery. This gives a pretty good showing for a lying-in hospital occupying the central portion of a large city general hospital (taking everything but smallpox, and even getting some of that unsolicited), receiving all classes of cases from the great unwashed lowest circle of society (?), and having within the enclosure accommodations for paupers, insane, etc.,—a resident population of at times three thousand beings.*

Playfair says that "the nearest approach to a reliable estimate is that made by Dr. Mathews Duncan,† who calculates, from figures derived from various sources, that not fewer than one out of every one hundred and twenty women delivered at or near full time dies within four weeks of childbirth." He also quotes from McClintock, who estimates the mortality in England and Wales as one in one hundred and twenty-six; in the upper and middle classes as about one in one hundred and forty-six. "More recently he has come to the conclusion, from his own increased experience and the published results of the practice of others, that one in one hundred would more correctly represent the rate of puerperal mortality."

Speaking of the death-rate of puerperal septicæmia in lying-in hospitals, Dr. Playfair‡ says, "Thus, it prevailed in London in the years 1760, 1768, 1770, to such an extent that

* See Medical Times for February 14, 1880,—Dr. Parish, "On Puerperal Septicæmia in Philadelphia Hospital." During the decade preceding 1879 there were one thousand eight hundred and seventy-two confinements, with sixty deaths,—"only a little over three per cent. of the cases of confinement," including puerperal fever.

† Edinburgh Medical Journal, November, 1869.

‡ Dublin Quarterly Journal, August, 1869.

in some lying-in institutions nearly all the patients died. Of the Edinburgh Infirmary in 1773 it is stated that almost every woman, as soon as she was delivered, or perhaps about twenty-four hours after, was seized with it, *and all of them died*, though every method was used to cure the disorder." "In the Maison d'Accouchement of Paris, in a number of different years, sometimes as many as one in three of the women delivered died, on one occasion ten women dying out of fifteen delivered. . . . In Vienna, where in 1823 nineteen per cent. of all the cases died, and in 1842 sixteen per cent. . . . In Berlin in 1862 hardly a single patient escaped."

An average death-rate, then, of about three in a hundred, including puerperal fever, epidemics and all, is certainly surprising, and can be accounted for only by the care with which such cases are nursed and treated and the thorough ventilation of the large and well-aired wards. I believe that should the pauper element (the almshouse) be removed, and a little extra spent in flooring, wire beds, etc., and proper heating, the mortality-rate would soon be reduced to that of private practice, which it now almost reaches.

I am, very respectfully, yours,

JOHN M. KEATING, M.D.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A SPECIAL meeting of the Society was held, December 2, to discuss cases presented by the Committee on Clinical Pathology, Dr. Albert H. Smith, President of the Society, in the chair.

SUPPOSED CASE OF ELEPHANTIASIS OF LEG.

Dr. J. R. Evans, of Branchtown, presented, by permission of the Society, a case of a white boy who had chronic enlargement of the leg, following an ulcer over the right ankle. The disease was thought to be elephantiasis.

After a general examination of the patient by the members, Dr. Chas. L. Turnbull inquired whether there had been any examination of the blood: the observations of Dr. Manson, of Amoy, having shown some connection between *filaria hominis* and elephantiasis.

Dr. F. Woodbury said that the conditions present did not correspond with elephantiasis, at least of those in the cases he had seen, but looked more like hypertrophied cellular tissue and chronic œdema accompanying a neglected wound. The treatment would decide the diagnosis, however, and he believed that compression by strapping, or with a rubber bandage, would cure the case.

Dr. Evans said that the rubber bandage

had been already used, without good effect. In reply to Dr. Turnbull, he said that the blood had not yet been examined.

Dr. Schapinger said that a Martin's elastic bandage had been used for a month in this case without any advantage.

Dr. H. Rich insisted that in order for it to succeed the bandage should be skilfully applied. It makes a vast difference who applies the bandage.

PARALYSIS FOLLOWING CHOLERA MORBUS.

Dr. Wood, in presenting a case to the Society, stated that every practitioner knows that diphtheria frequently has for its sequela various paralyses, but that it is not so universally recognized that almost all acute diseases are liable to be followed by palsy, and that after dysentery and cholera morbus paralytic symptoms are not very infrequent. Of all the instances he had seen of paraplegia occurring as a sequela to acute disease of other than the nervous system, the greater number came under observation after cholera morbus. In such instances the paralysis is often followed by pricking and numbness in the legs. The patient now presented tells us that four or five weeks after the attack of cholera, on attempting to get out of bed, he found a loss of power in the legs. When admitted to the hospital, six weeks ago, he was unable to stand; he could only move the legs feebly; the arms also were profoundly affected. There was no difference between the two sides that could be registered by the thermometer.

The explanation given by the speaker was that in such cases there is a congestion of the spinal cord, due to relaxation of the spinal vessels; although this has not been proved by autopsy to be correct. The patient, however, on this view was ordered ergotin, and during the last three weeks he had taken from twenty-five to thirty grains of ergotin per day, with small doses of iodide of potassium.

It should have been stated that, when he came in, the patellar tendon reflex was completely suspended: this symptom is not much better at present, although he has recovered the power of his hands and can use his legs so as to be able to walk about, and even can go up- and down-stairs. There is no history of venereal disease.

Dr. F. Woodbury inquired whether there had not been some wasting of the muscles, and, if so, would it not indicate a graver condition as the cause of the paralysis than simple congestion? What are the distinguishing points that separate this case from one of anterior poliomyelitis, for instance?

Dr. Wood said that in regard to diagnosis, of course, the explanation he had given was hypothetical in so far as it was not confirmed by an autopsy, but he had no doubt of the existence of spinal congestion. Neither

the degree of wasting nor the amount of loss of electrical reaction was sufficient to stamp the case as one of poliomyelitis, although poliomyelitis might arise in a similar manner, and he had seen symptoms of it in a child after over-exertion in walking, passing away in the course of twenty-four hours. In cases where the symptoms pass off in the course of a few weeks, he could not bring himself to believe that there was any grave lesion in the beginning.

PATULOUS FALLOPIAN TUBES.

Dr. Chas. H. Thomas reported the following interesting case. A married woman, about 40 years of age, came to the Lying-in Charity, about twelve years ago, with the history of having had seven successive miscarriages. On searching for the cause, he found and removed a number of sessile polypi. She afterwards had two living children. Subsequently, about two years ago, he had been sent for, with the statement that she was miscarrying and in her sixth week. Upon reaching the house, he learned that a solid mass had been passed and which had been lost; she was bleeding continuously; the os was firmly contracted and would not admit the finger, and he was led to question whether it were an early miscarriage or a recurrence of the polypoid growths. He then determined to make an exploration, in which he was assisted by Dr. John B. Roberts, who administered ether. After rapidly dilating the cervix, he introduced a round wire curette, modified from that of Dr. T. Gaillard Thomas, and which he here exhibited to the Society, by the use of which as an exploring instrument he claimed that he is able to obtain a far better impression of the state of the cavity and lining of the uterus than can be obtained by the ordinary probe or sound. The instrument was seventeen centimetres in length and six millimetres broad in the loop. The patient being placed upon her back and ether administered, he seized the posterior lip of the os with the tenaculum and drew it down to the vulvar orifice. The curette being introduced went in three and a half inches and encountered the arch of the fundus uteri and some placental tissue which was recognized under the microscope as such by Dr. J. G. Richardson, but found no more polypi. Holding the curette now between the thumb and forefinger as a probe while moving it about over the interior surface of the womb and without using any force, upon directing towards the left cornua the instrument suddenly slipped in, the handle of the instrument being brought up to the external os. While holding it in this position, he discovered that by tilting the handle backward the loop of the curette was plainly palpable through the thin abdominal wall on a level with and about two and a half inches to the left of the umbilicus, and

evidently in the peritoneal cavity. He then withdrew the curette and reinserted it, directing it towards the opposite cornua, when it passed, as before, the whole length of its shaft, reaching a corresponding point on the right side of the abdomen. In neither of these positions could the instrument be brought within an inch of the *linea alba*. For a few days after the examination there was a slight rise in temperature and some pelvic soreness, but no evidence of peritonitis. The patient at the end of a week was well, and has since been pregnant. After the last delivery, in order to satisfy his mind and to remove the placenta entirely, he passed his hand into the uterine cavity, but found no abnormality of development.

Dr. Blackwood inquired what grounds there were for believing that the instrument traversed the Fallopian tubes. The direction of the instrument towards the umbilicus did not correspond with the course of the Fallopian tubes when the ovary is high up. He referred to a case occurring in New York where an ordinary sound had been passed through the fundus of the uterus while making an examination; in the same way an umbrella-rib had been pushed through the uterus up into the left lung in an attempt to produce abortion. The curette has also penetrated the fundus before now.

Dr. Parish thought it more probable that the instrument passed along the tube than through the uterus, on account of the shape of the terminal loop, and also from the slight consequences. The fact that the Fallopian tubes may be patulous should lead to special care in making intra-uterine injections, to see that the os is also open so as to allow a free return of the fluids.

Dr. Thomas confirmed the remark of the last speaker that the instrument used would not penetrate the uterine walls without unusual force being applied. In this respect it is very different from the ordinary uterine sound. As to its direction, the instrument did not appear in the middle line, but to the right or left of the umbilicus. He recalled the fact that, in order to confirm his suspicions, he passed it into the right cornua twice and once into the left, in order to demonstrate it to Dr. Roberts; but he used the instrument with extreme delicacy.

PRIMARY TUBERCULOSIS OF THE LARYNX.

Dr. J. Solis Cohen exhibited a specimen of primary tuberculosis of the larynx occurring in a man 47 years of age, which was only the second case that he had encountered in his practice. The lungs were secondarily involved, and the patient died with apnoea. The specimen demonstrated entire destruction of the epiglottis, and the larynx was much diseased, but the morbid action stopped at the true vocal cords, the trachea below appearing perfectly healthy. The lungs were

both tuberculous. In regard to the exciting cause of the malady, the patient was a driver of an ice-wagon, and very much exposed to cold and damp.

Dr. C. Seiler exhibited microscopic sections of parts of the tuberculous epiglottis and larynx proper. In another case he had found tuberculous nodules also in the uvula. The appearances of the epiglottis and larynx are so marked that he looked upon them as characteristic, and as being valuable in making a diagnosis of tubercular phthisis.

PREGNANCY COMPLICATED WITH CANCER.

Dr. H. E. Dwight reported a case of cancer of the uterine cervix in which pregnancy occurred, and presented the specimen obtained at the post-mortem nearly a year later.

TREATMENT OF GONORRHOEA.

Dr. Joseph Hearn recommended the following combination for reducing the amount of gonorrhœal discharge: the prescription originally was one of Prof. Pancoast's:

R Aluminis pulv., ʒj;
Cubebæ pulv., ʒviij;
Myristicæ pulv., ʒij;
Cinnamomi pulv., ʒij.

M. Ft. chart. no. xx.

These powders may be given several times a day, and in some cases the amount of cubebæ may be greatly increased. Whenever the discharge is profuse, a few doses of the powders will reduce it.

Dr. MacFerran said that he had found good results from *hydrastis Canadensis*, twenty grains being given in an ounce of water three or four times daily.

MODEL OF OFFICE CHAIR.

Dr. Wm. B. Atkinson exhibited a model of an office and operating chair.

OVARIAN TUMOR.

Dr. W. W. Keen presented a specimen of a large ovarian tumor, which was, on request, referred for microscopical examination. The interest in this case centred in the fact that it had been complicated with a double oblique inguinal hernia (see p. 449).

A CONVERSATIONAL meeting was held at the Hall of the College of Physicians, Philadelphia, December 28, 1881, at which Dr. O. H. Allis read a paper entitled "What is the Best Cure in Hip-Joint Disease?" (see p. 451). Dr. Jas. H. Hutchinson also read a Memoir of Dr. H. Lenox Hodge, which was, on motion, referred to the State Medical Society for publication.

Dr. J. M. Barton remarked that he would strongly endorse the position taken by Dr. Allis. In those cases where the inflammatory symptoms have run high, where there have been decided nocturnal pains and great

thickening of the surrounding tissues, he is now in the habit of making no effort whatever to regain motion in the joint.

His experience has been somewhat similar to that of the lecturer, and he regards a stiff joint as a favorable compromise in this class of cases. He would even go further, and consider that where the inflammatory symptoms have been decided and prolonged, there is more risk of further trouble with a movable joint than where ankylosis has taken place. In such a case inflammatory changes have occurred in the tissues around the joint, which may readily give way under some strain, or may as readily re-inflame and cause further articular destruction before being again arrested.

He recalled two cases where full recovery took place with a movable joint after a decided coxalgia, lasting in one case over a year and in the other eighteen months.

In one of them, a girl of 7 years, the nocturnal pains were so severe as to require fifty-five drops of laudanum to give ease, the actual cautery was used, and later he was obliged to puncture the capsule. A perfect recovery followed, so that the child was able to dance fancy dances. In about a year the disease returned, and after several months of rest she again recovered, with a movable joint. Since then a distinct dislocation occurred while in bed, and, though readily reduced, the wasted and absorbed head remained but a few weeks in the enlarged acetabulum: the patient now has a wasted, shortened limb, with the great trochanter articulating upon the gluteal muscles for a hip-joint. The second case had a similar experience in the first instance, but the return of the disease was followed by abscess, and, though he removed the head of the femur, the case terminated fatally. Cases terminating in a fully-ankylosed joint rarely have a return of the disease, and then usually of short duration and requiring but little treatment.

It had also been his experience to see immediate and disastrous inflammation follow the most gentle passive motion; and, though many cases of coxalgia in the earlier stages recover with movable joints, he doubted if the "passive motion" instituted by the surgeon contributed much to this result, the child's own efforts being usually quite sufficient.

In regard to the position of the limb after recovery, the lecturer suggested that it should be left slightly flexed: Dr. Barton stated that it usually is so,—that one of the evidences of a distended capsular ligament is slight flexion of the limb. Indeed, one of the most reliable points in the diagnosis of coxalgia is based on this deformity, and, try as we may during treatment to efface it, we usually fail to do so, and where the joint ankyloses the position is still maintained.

Dr. De F. Willard said that if the question under discussion was as to the best cure of

hip disease, then there would be great latitude for differences of opinion; but, as the lecturer had limited his remarks simply to those cases in which *destruction of the joint* had already occurred, he could heartily concur in the conclusion that the patient who had recovered with a femur firmly and securely ankylosed in a good and useful position should consider himself exceedingly fortunate, and that any attempt at restitution of such a fixed joint was unwarrantable.

He had only recently seen three cases in which violent and destructive inflammation had been awakened in long-quiet joints: in the one case, by an accident; in another, by excessive dancing; in another, by the surgeon's manipulations.

It should be constantly remembered that the condition of the tissues was an entirely different one from that which follows a fracture. In the one case, the tendency of any inflammation which might be aroused by passive motion would be to resolution; in the other instance all the tissues were unhealthy, were prone to retrograde, were in that condition in which the products of any inflammation, however slight, would most probably tend to break down rather than to organize.

It was from disregard of this that the surgeons who insisted most upon the desirability of a movable joint after hip disease were the ones who performed the most resections, the operation being the legitimate result of their treatment.

Should the ankylosed position be one unfavorable for locomotion, he would practise subcutaneous osteotomy rather than run the risk of exciting destructive inflammation in a region where the tissues were unhealthy and where there was really no sound joint-structure remaining.

PHILADELPHIA ACADEMY OF SURGERY.

STATED MEETING OF FEBRUARY 6, 1882.

DR. S. D. GROSS, President, in the Chair.

A NEW MATERIAL FOR THE DRAINAGE OF DEEP WOUNDS.

DR. LEVIS presented a material for the drainage of deep wounds. He referred to the disadvantages of the india-rubber tubes as generally used for the purpose, and stated that they soon become occluded by viscid matters. Their pervious condition is soon lost, and their contents become septic and sources of danger.

The material that he uses exclusively in surgical drainage is simply threads of india-rubber such as are used in weaving elastic textures. Their softness and pliability render them mechanically unirritating in wounds. Any number may be introduced, varying with the extent of the suppurating cavity; and, if

desired, they can be removed singly, thus gradually decreasing the drainage. The material is inexpensive, and may be obtained from any dealer in india-rubber goods.

Dr. Levis showed a patient upon whom he had practised a rather new operation for restoring a large portion of the lower lip of a girl about 12 years of age. The deformity was the result of gangrene after typhoid fever. He had utilized a portion of the vermilion border of the upper lip, which, by twisting, filled up the gap left after freshening the margin of the labial deficiency. His remarks were accompanied with diagrams illustrating the various steps of the operation.

DISLOCATION BACKWARD OF THE HEADS OF BOTH TIBIÆ, DUE TO HYPERTROPHY FROM CONGENITAL SYPHILITIC OTITIS, AND PRODUCING HYPERTROPHY OF THE LEGS.

Dr. Levis showed two amputated limbs of a boy 12 years old, whose history was that of congenital syphilis.

Amputation through the lower thirds of both thighs had been performed, and the patient was convalescing. There was backward dislocation of the heads of both tibiæ, impeding venous return through the popliteal spaces, and resulting in great œdema and general hypertrophy of the legs and feet, and presenting the general characteristics of elephantiasis. An eczematous eruption spread over the entire integument of the limbs.

The following report of the pathological examination of the joints is furnished by Dr. Longstreth, one of the physicians of the Pennsylvania Hospital.

The motion of the knee-joint is very limited. The leg can be moved on the thigh, so as to describe an arc of not more than fifteen degrees. The patellæ are movable over the condyles of the femur, but seem to be attached to the surface of that bone by loose fibrous adhesions. In the right leg the patella occupies a position on the outer condyle, while in the left it is placed nearly centrally in the condyloid notch.

In both knees the articulation with the heads of the tibia is formed on the posterior aspect of the condyles. In both joints the end of the femur, with the patella, projects two and a half inches forward from the line of the spine of the tibia. The projection looks not unlike the prominence formed by an enormous bursal tumor. The angle formed between the femur and the tibia when the leg is in position of greatest extension, measured on the under surface of the limb, is about 130°. The angle when these bones are at their greatest flexion cannot be reduced to less than 110° or 115°. The border of the articular surface of the tibia slopes downward and forward at an angle of about 60°, to accommodate the altered relation to the articulating end of the femur.

A longitudinal section made through the

right knee-joint shows the altered relations of the bone. The free articulating surface on the head of the tibia measures not more than an inch and a half laterally, and antero-posteriorly is of even less extent. The remainder of the joint-cavity is closed by firm fibrous adhesions, which extend three-fourths the distance from before backward across the head of the tibia. An extension of the joint-cavity has taken place forward and down the face of the tibia towards its tubercle. This new surface is covered by tissue resembling fibro-cartilage, and is continuous with the articular cartilage and with that of the epiphyseal junction. Little or no trace of the crucial ligaments of the joint can be seen, but the articular cartilage over both the femur and the tibia is everywhere present, as in the normal joint. The cross-section of the bone shows marked changes both of its medullary canal and of its compact tissue. The medullary spaces are increased in size and are filled with a blood-red pulp. The compact tissue of the shaft is very considerably reduced in thickness, and strong pressure with the finger is capable of compressing and bending the bone. The tissues at the posterior part of the head of the tibia and the newly-formed popliteal space are worthy of special attention. At the back of the tibia the skin and the muscular tissues have been compressed, and with them the blood-vessels have also suffered compression. This pressure must necessarily have interfered with the return of venous blood, and have contributed to, if not entirely caused, the enlargement of the feet and legs.

SURFACE THERMOMETERS.

Dr. Packard exhibited several varieties of surface thermometers, and detailed three cases in which he had recently resorted with advantage to their use.

January 23.—C. F., æt. 23. Suspected abscess in head of tibia. Over ankle and sound knee, 90°; over spot of inflammation, 95°.

January 29.—Over ankle and sound knee, 92.4°; over spot of inflammation, 95°.

January 29.—J. B. S., æt. 26. Inflammation of eyelid. Over sound eyelid, 92.4°; general temperature, 92.4°; over inflammation, 93.2°.

February 6.—J. H., æt. 53. Paralysis of right arm and leg from apoplectic clot ten weeks ago. Left hand, 91.8°; right, 93.2°.

EXTREME SPINAL DISTORTION.

Dr. Morton exhibited the following case of extreme spinal distortion in a lad who was brought to his clinic at the Orthopædic Hospital in May, 1881. The following notes of the case were prepared by Mr. J. K. Mitchell, of the University of Pennsylvania, at Dr. S. W. Mitchell's clinic, to whom the lad was referred for consultation.

Henry N., aged 8½ years, born in New York. Mother and mother's family all healthy; father was subject to rheumatism, and died

of "a rheumatic affection." The boy has never had any of the ordinary diseases of childhood. His appearance is healthy; bowels, digestion, and appetite good; he is not small of his age, nor undeveloped. Intelligence appears unimpaired, but speech is rather childish.

The disorders began when the patient was about 3½ years of age. In November, 1875, it was noticed that he used the right hand awkwardly and preferred the left. He sometimes fell suddenly when walking. From that time the progress of the disease has been variable. Twice he has been nearly well without any treatment. He is now (May, 1881) decidedly worse than at any previous time. His appearance is well shown in the photograph. He can stand without assistance for a quarter of a minute, or perhaps half a minute, but he then sinks on to the floor or a chair, with his head sometimes resting on the external malleolus of the right leg. He can walk, but only a few steps. He makes the effort, but invariably crosses his legs and falls.

There seems to be a chronic spastic condition of all the muscles of the right side of the body from the lower border of the armpit to the hip, affecting the right leg, however, but slightly. When he is in the supine position,



his left leg is crossed over the right one, at an angle of 40° with the transverse axis of the pelvis. This spasm is persistent in sleep, but less violent. The left leg has a spasm on the adductor muscles, and probably in the psoas. There is no paralysis. The response to the faradaic current is slightly exaggerated in the muscles all over the body, and a very weak current will induce contractions. The exami-

nation with the galvanic current was difficult, owing to the boy's fear of it; but the motor and sensory responses to it appeared perfectly normal. Both erector spinæ muscles responded perfectly. Considering the enormous curvature of the spine, the degree of rotation is very slight.

Diagnosis and Treatment.—Dr. W. A. Hammond had charge of the patient for nearly a year. Soon after the beginning of the disorder he pronounced the case one of "chorea paralytica," and prescribed arsenic and strychnia, and afterwards bromide of zinc. As none of these medicines were productive of good, Dr. Hammond came to the conclusion that it was not choreoid.*

Dr. Hammond has since mentioned the case as one of "sclerosis and atrophy of the cerebellum."† In the same place he says that when he last saw the patient there were nystagmus and a "total inability to stand."

Dr. Sayre saw the boy not long after Dr. Hammond, and considered the disorder due to reflex incoördination from a contracted prepuce. He recommended circumcision, which was performed,—without good result, according to Dr. Hammond.‡

Dr. Mitchell considered the trouble choreoid in its nature, and recommended rest in bed, with massage and hypodermic injections of Fowler's solution in increasing doses.

The treatment which the boy had been subjected prior to and after admission having been without benefit, I determined to rectify, as far as possible, the symmetry of the spine, and then to place upon him a felt corset. Having secured the valuable services of Mr. W. H. Johnstone, the lad, after complete anæsthesia, was placed in extension in his apparatus, and by these means the body was effectually and readily straightened, and a very perfect plaster cast of the chest and body was made. A felt splint was then moulded, which laced up in front, and with this the boy has been enabled to walk almost erect, with great comfort, since May, 1881, to the present time. January, 1882, again we admitted him to the Orthopædic Hospital, and lateral steel supports which extended from the spinal jacket to the shoes were added to the brace, which proved of considerable service, the lad readily walking with the additional aid of a cane, and without difficulty can walk erect. The deformity, however, recurs when the splint is removed.

PALSY OF BOTH LOWER EXTREMITIES.

Dr. Morton presented the following case of complete (infantile) palsy of both lower extremities, involving the thigh and leg muscles, in which the paralyzed limbs were utilized by flexing the legs upon the thighs, thus forming

a support for artificial limbs, which have been worn with success for a year.

H. B., aged 18 years, had been an inmate of the Philadelphia Almshouse for many years, was deemed an incurable, and was sentenced for life to the pauper department. I was asked to visit him, in order to give an opinion whether or not in any way he could be relieved and made to walk, as he was soon to be transferred from the youths' department, where he had



been so long, to the pauper portion of that institution. His only method, I found, of locomotion was by dragging his body along the floor by means of his hands and arms. I found that he had considerable control of the muscles of the upper part of the thighs. The limbs were extremely atrophied, and presented the usual appearances in such cases. He had been in the habit of keeping his legs tightly drawn upon his thighs, partly for convenience' sake; and it then occurred to me that if the atrophied legs and thighs were closely bound together, an excellent support

* Transactions of the American Neurological Association, 877.

† Diseases of the Nervous System, p. 378, ed. 1881.

‡ Medical and Surgical Reporter, April 7, 1877, p. 301.

might be obtained for an artificial limb. Artificial limbs were adapted, and the result has proved most satisfactory. The lad can now walk a mile or more with the aid of a cane; he has been enabled to earn his living without difficulty at cigar-making, and his physical and mental condition has astonishingly improved.

Amputation, of course, has been suggested; but the boy suffers no inconvenience from having the limbs in the sockets of the artificial limbs, and is averse to their removal. His condition at the time of his removal from the Almshouse was so impaired that an operation then was not even considered.

O. H. ALLIS, M.D.,

Recorder.

REVIEWS AND BOOK NOTICES.

THE SYMPATHETIC DISEASES OF THE EYE.

By LUDWIG MAUTHNER, M.D., Royal Professor in the University of Vienna. Translated from the German by WARREN WEBSTER, M.D., Surgeon U. S. Army, and JAS. A. SPAULDING, M.D., member of the American Ophthalmological Society, Ophthalmic Surgeon to the Maine General Hospital. 8vo, pp. 219. New York, Wm. Wood & Co., 1881.

This monograph is the first of a series that it is proposed to publish with the "object of popularizing, among practitioners of general medicine, the specialty to which the author belongs," but contains much that will be of interest and value to the ophthalmic surgeon as well.

We have not space to discuss the interesting chapters on the pathology and pathogeny of sympathetic ophthalmia, in which the author freely admits the agency of the optic nerves as well as of the ciliary, but will call attention to a few points on the subject of treatment, which is one of the most practical and important in ophthalmic surgery. Some fifteen or twenty years ago, removal of an eyeball to protect its fellow was theoretically opposed by many surgeons, and practically resisted by most patients, as a barbarous and useless piece of cruelty: now patients usually submit to it with commendable resignation, and too many of the profession fancy that they have an easy answer to all questions that may arise as to the therapeutics of sympathetic ophthalmia in "enucleation." A perusal of this excellent little monograph will convince the latter that the problem is by no means so simple, and that cases may arise that will severely try the soul of the conscientious surgeon. If the function of the eye is destroyed and its form disfigured by traumatic injury, there may be no question about the propriety of its removal as a preventive measure, except in the case of children, where it is followed by defective de-

velopment of the orbit and side of the face. If the patient is a child, if some vision remains or the eye is not much disfigured, the case is not so easily decided. If sympathetic irritation has set in, the author tells us that we should enucleate instantly, "even if the injured eye preserves vision." He strongly opposes the operation in the serous or mild plastic forms of iritis, as he believes it has a tendency to transform them into plastic iridochoroiditis. In sympathetic plastic iridochoroiditis he says that enucleation can do no harm if the injured eye is hopelessly blind, though he has no confidence in the efficacy of any kind of treatment, but that "every one will admit that it is a crime, in a case of pronounced sympathetic iridocyclitis, to enucleate an eye which still possesses vision or in which vision might at a later date be restored," since cases are recorded in which the injured eye regained useful vision while the other became entirely and permanently blind.

The history of optico-ciliary neurotomy is given to date, and the conclusion drawn from it that this operation cannot safely be depended upon as a substitute for enucleation.

As to operative treatment of the sympathetically diseased eye, iridectomy is discouraged in serous or simple plastic iritis, or in the severe form until all irritation has subsided, but is urged in the secondary glaucoma which sometimes results from iritic adhesions.

The unusually pleasant style of the author has been well rendered by the translators, who deserve the thanks of the profession. It is to be hoped that they will be encouraged to go on with the good work that they have commenced so well.

G. C. H.

GLEANINGS FROM EXCHANGES.

CASE OF CROUP TREATED BY PASSING CATHETERS INTO THE TRACHEA BY THE MOUTH.—Dr. J. W. Paton (*British Medical Journal*), in reporting a case in which catheters passed into the trachea by the mouth obviated the necessity for tracheotomy, calls attention to this method as useful in the treatment of children suffering from croup. The patient upon whom this method was tried was a little child nearly four years of age, who, when first seen, was suffering from intense dyspnoea, quite unable to speak, and his lips of a dark livid color. His cough was brassy and without expectoration. The respirations were 35 per minute, the cartilages of the ribs and sternum being drawn in at every effort to breathe, and crepitation existing over both lungs. The fauces were healthy. The pulse was 144, very weak. A No. 11 prostatic catheter was passed during an attempted inspiration, and without the slightest difficulty.

A severe struggle followed, lasting perhaps a minute or two, the face becoming purple and the eyes staring, with fully-dilated pupils. After a few moments the breathing became easier, considerable frothy, bloody, and purulent mucus having been ejected. The presence of the tube did not prevent his swallowing milk, though sometimes a little was ejected from it during a cough. The tube was retained in place by a strip of adhesive plaster, and the teeth were prevented from closing on it by means of a pear-shaped piece of wood. Six hours after, he was much easier, and could say "yes" and "no" distinctly. The character of the cough continued, and was not altered by the presence of the tube. After it had been in eleven hours, the tube was removed; but shortly after its removal the obstruction reappeared, and a No. 12 gum catheter was then inserted, with good result. After forty-eight hours the tube was removed, and the child made a good recovery.—*Canada Medical Record*.

TREATMENT OF SPLENITIS BY ERGOT.—The value of ergot in ague-cake is generally known, but it is less well established in enlarged spleen from other causes. Dr. W. E. Emanuel, of St. Louis, reports to the *St. Louis Courier of Medicine* the following instance in which no malarial history could be obtained. Mr. F., 43 years of age, had been subject to spasmodic urethral stricture, and probably some vesical catarrh, for more than a year. Two weeks before coming under observation the spleen commenced to enlarge, and was found at the time of examination to cover "nearly the entire abdominal cavity, and extended as far as the border of the liver." It was firm, hard, and very painful. The urine contained an excess of urates and phosphates, and formed a solid coagulum with nitric acid and heat. The patient, from robust health, had fallen away in weight and strength, and apparently it was a mere question of time how soon he would succumb. Thirty-minim doses of Squibb's fluid extract of ergot, thrice daily, gradually increased to sixty, soon produced marked results. In three days the spleen had lost a good deal of its hardness, and was flabby to the touch, though not noticeably reduced in size. In one week there was perceptible diminution, and from that time, day by day, there was marked dwindling, until it almost entirely returned to its normal position. With this reduction of the spleen, the kidneys became decidedly better, the albumen almost entirely ceased, and with buchu, uva ursi, and copaiba, taken as the spleen improved, the urine cleared up, and, at the time of report, convalescence seemed secured and health and strength were almost restored.

NERVE-STRETCHING IN LOCOMOTOR ATAXIA. In the *British Medical Journal* for January 28, 1882, Mr. H. E. Spencer reports a case of chronic spinal affection in which difficulty of

co-ordination in the lower extremities, associated with decided anæsthesia and absent patellar reflex, pointed to lesion of the posterior horns of the gray matter; but the characteristic pains of locomotor ataxia were not present, and the general health appeared excellent. Stretching of the left sciatic nerve was followed by great temporary improvement, increase of sensation, and return of plantar reflexes on both sides. A month later, however, the limb was just as bad as ever. The result was instructive as a test of the effect of the operation upon muscular co-ordination. The interesting points in the case are the restoration of the plantar reflex and the temporary improvement, both in sensation and motion, of the limb operated upon. The operation itself was followed by no bad consequences, either local or general.

GALEZOWSKI ON OPHTHALMIC MEGRIM.—In 1877, before the Congrès International held at Geneva, Dr. Galezowski read a paper based upon seventy-six cases of nervous disorder, which he includes among the affections of the fifth nerve and of the vaso-motor nerves of the retinal centre. He regards ophthalmic megrim as an affection of that part of the fifth pair which supplies vaso-motor nerves either to the visual centres—such as the corpora quadrigemina, the corpora geniculata of the optic thalami, and the chiasma—or to the parts lying more peripherally, such as the optic nerves and retina. In a short paper contributed to a recent issue of the *Lancet* (February 4, 1882) he reports four more cases of the same character, which demonstrate the further important point that ophthalmic megrim, which has hitherto been considered as a mere nervous symptom, may occasionally lead to organic changes in the retina or retinal vessels, in the nature of thrombosis, atrophy of disk, etc.

TRAUMATIC TETANUS TREATED BY SULPHATE OF ESERINE—RECOVERY.—Dr. Layton, in the *New Orleans Medical and Surgical Journal* for March, reports a case of severe tetanus in a boy 11 years of age, occurring three weeks after injury to the foot. Bromides, chloral, cannabis Indica, were tried without good effect. Eserine was then substituted in doses of one-sixty-fourth of a grain (a milligramme) every hour, in the following prescription:

R Eserin. sulphat., gr. $\frac{1}{4}$;
Glycerin., f3ij;
Syrup. aurant. cort., f3xiv;
Aqua, f3ij. M.

The glycerin being added to prevent change in the eserine. The full adult dose (a teaspoonful) was given at first every hour. At no time were there symptoms of poisoning by the agent, and no contraction of the pupils: in short, nothing but the beneficial effects of the remedy was manifest. The dose was gradually reduced as the symptoms ameliorated. During the week the boy took

three grains in all. The prescription was then discontinued, the only remaining trace of the attack at that time being some rigidity of the jaws, which had entirely disappeared a fortnight later.

INFANTILE PARALYSIS RELIEVED BY STRETCHING THE SCIATIC NERVE.—Dr. Simon reports (*British Medical Journal*, February 25) a case of a boy 5 years old who had been for three years under treatment for partial paralysis of right leg. After two years' treatment with electricity, without much benefit, it was decided to stretch the sciatic nerve. This was followed by increased nutrition of the muscles and decided improvement in the manner of walking. Dr. Simon considers the procedure as harmless, and likely to do great good in cases otherwise beyond remedial aid.

MISCELLANY.

CHEWING-GUM.—Forty thousand dollars' worth of chewing-gum is gathered in the State of Maine every year. In Oxford County is a man who makes it his business to collect spruce gum. Every year he buys from seven to nine tons. The gum is found chiefly in the region about Umbagog Lake and about the Rangely lakes. A number of men do nothing else in the winter season than collect gum. With snow-shoes, axe, and a toboggan, on which the gum is packed, they spend days and nights in the woods. The clear, pure lumps of gum are sold in their native state, the best bringing one dollar per pound. Gum not immediately merchantable is refined by a peculiar process. Sieve-like boxes are covered with spruce boughs, on which is placed the gum. Steam is introduced underneath. The gum is melted, is strained by the boughs, and then passes into warm water, where it is kept from hardening until the packer takes it out, draws it into sticks, and wraps it in tissue-paper, when it is ready for market.

The gum meets with a ready sale. There is not a village, town, or city in Maine where it is not in demand. One dealer last year sold fourteen hundred dollars' worth. In the large mill cities, gum has a free sale.—*New Remedies*.

THE IMPORTATION OF OPIUM INTO CHINA.*—The following information is taken from a report published in 1881 by Mr. Robert Hart, Inspector-General of Imperial Maritime Customs of China at Peking last year.

About 100,000 chests of opium are annually imported into China. Each chest averages about 100 catties, the catty being equal to about 1½ pounds avoirdupois. The importation is, therefore, equal to about

13,000,000 pounds. The opium being boiled down and prepared loses about thirty per cent. before it is sold for smoking.

The opium pays import duty and other taxes in all amounting to about 1 taël per catty (the taël is equal to 6s.).

The average smoker consumes about ½ ounce daily, costing him for foreign opium about 10½d.—*New Remedies*.

THE NORWAY WHALE-FISHERY.—The whaling-business in Norway is increasing, and engages larger capital each year. Two hundred and eighty whales were caught in 1881, the largest number ever killed in one year off the Norwegian coasts. Five different companies were last year represented by steamers; and the fishermen engaged in the important cod-fisheries off the Finmark have protested strongly against this invasion of their fishing-grounds.—*Oil and Drug News*, March.

THE *British Medical Journal* thinks that it is proved that the moderate use of opium in warm climates is a desirable habit. Certainly it is desirable to the British government, as it puts in its treasury about fifty millions of dollars annually.—*Detroit Lancet*.

NOTES AND QUERIES.

OBITUARY.

DR. THOS. H. CATHCART, who died recently in this city of an acute tubercular peritonitis, was only in his twenty-fifth year, but had already shown such extraordinary industry and ability as a teacher of medical science, and such adaptability to the practical duties of his profession, that a brilliant career was everywhere expected for him. Universally and deservedly most popular, he is widely mourned.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MARCH 19 TO APRIL 1, 1882.

ALEXANDER, R. H., MAJOR AND SURGEON.—Having reported at these Headquarters, will report to the Commanding Officer, District of New Mexico, Santa Fé, for duty as attending surgeon at District Headquarters, and post-surgeon, Fort Marcy, N. Mex. S. O. 59, Department of the Missouri, March 20, 1882.

TREMAINE, W. S., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort Porter, N.Y. S. O. 51, Department of the East, March 24, 1882.

DICKSON, J. M., CAPTAIN AND ASSISTANT-SURGEON.—So much of Paragraph 2, S. O. 51, c. s., as relates to him is revoked, and he will proceed to Fort McHenry, Md., and report to the Commanding Officer for duty at that post. S. O. 59, Headquarters Department of the East, March 25, 1882.

GARDINER, JOHN DE B. W., CAPTAIN AND ASSISTANT SURGEON.—To report in person to the Commanding General, Department of Arizona, for assignment to duty. S. O. 71, A. G. O., March 28, 1882.

GARDNER, EDWIN F., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the Commanding General, Department of the Columbia, for assignment to duty. S. O. 71, A. G. O., March 28, 1882.

ROBINSON, SAMUEL Q., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the Commanding General, Department of the Columbia, for assignment to duty. S. O. 71, A. G. O., March 28, 1882.

* Condensed from the Journal of the Statistical Society, December, 1881.

PHILADELPHIA, APRIL 22, 1882.

ORIGINAL COMMUNICATIONS.

TYPHOID FEVER.

BY JAMES J. LEVICK, M.D.

A DISTINGUISHED English physician, in one of his most valuable papers, has recently said that "the sum of his own experiments constitutes each man's experience, to which, in proof of the correctness of his practice, he appeals as to a judge whose decision is final and infallible." "And yet," he adds, "how different are the conclusions, all based on experience, drawn by different observers, in regard to the effects, on any given disease or symptom, of any given remedy!"

Notwithstanding all the various sources of error, he intimates that it is the duty of those who have had opportunities for the observation and study of disease to give to others the results of that observation and study. This, then, must be my apology for venturing to offer these remarks on a subject so well known to the profession as typhoid fever is. The adoption of the word "typhoid," and its retention for an independent fever, curiously illustrate the earnestness with which the theory of the distinct character of this fever was resisted. It was indeed a compromise with those who still claimed that, if it were not the true typhus fever, it was very closely allied to it. The nomenclature of disease is, however, not an exact science; and I have taken much comfort in a fact I have recently discovered, that, primarily at least, the Greek word *τυφος* means not *stupor*, as has been taught from the days of Hippocrates, but *smoke, mist, cloud*, and, dismissing from the mind all thoughts of typhus fever, have been glad to find in *typhoid*—smoke-like—a word which aptly describes the obscured, misty, clouded mental atmosphere which belongs to this disease.

It is unnecessary here to dwell on the causes of typhoid fever; but I cannot avoid expressing my conviction that there has not been that value attached to a peculiar susceptibility to this disease, oftentimes inherited, which I believe is a very potent factor in its development. This tendency or susceptibility has not entirely escaped the notice of writers on typhoid fever, but

it has never had that general recognition which it deserves. I have myself no more doubt of such a susceptibility, in some families, than I have of a tendency in others to phthisis. Indeed, it often happens that this susceptibility is found in families in which this tendency to phthisis exists. I have known a family in which three of its members have died of consumption and two others, escaping consumption, have been very ill with typhoid fever. Again, it has happened to the writer to attend three generations of a family in which the liability to typhoid fever is a very marked one,—viz., the mother, her three sons, and her grandson. That this was not referable to any one local cause was shown by the fact that, with a single exception, these cases occurred in long intervals of years, in different houses, and in different parts of the city. In this family the liability to typhoid fever is a very marked one. Of the brothers and sisters of the mother here referred to, and their descendants, I have a record of twenty-three who have had typhoid fever, and this has occurred to them in different cities, in different States, in town and in country, and under the most favorable social and hygienic conditions.

My attention has been especially drawn to these cases from the fact that the parents were personal friends of my parents, and that they and their descendants had the same social and hygienic surroundings as my own parents and their descendants had; and yet in the one family there have been twenty-three instances of typhoid fever, and in the other but one.

It is impossible for me to believe that of the one family twenty-three have been especially exposed to the specific poison of typhoid fever, while in the other there has been but one such exposure. I am irresistibly led to one of two conclusions,—either that all are exposed to this poison, which some are always able to resist, or that there exists in some individuals and in certain families an especial susceptibility—I had almost said, a predisposition—to this disease. Be the state of things what it may, this liability to typhoid fever should always be inquired into as an aid in the early diagnosis of typhoid fever.

It is not the purpose of this paper to consider in detail the various phenomena of typhoid fever; this has been done by

the writer elsewhere;* but so deeply impressed is he with the importance of the early recognition of the red spot—the characteristic eruption—that he desires strongly to urge the necessity of a very thorough search for it. The physician should not be content with merely looking at the abdomen, where the books tell us it is to be seen, but should examine the back, the arms, the legs, and the chest. The truth is, there is scarcely a part of the body where it may not occasionally be found. In my own observations I think I have most frequently first seen it on the right hypochondrium, over the articulation of the cartilage of the eighth rib.

It is indeed of vital importance that the physician should make himself familiar with the nature and appearance of this pathognomonic eruption, should understand that it is entirely unlike the rubeoloid eruption of typhus and the petechiæ which are so often mixed up with this, that it is not an extravasation, but a local hyperæmia, that it therefore disappears on pressure, promptly to return when that pressure is removed. All these facts must be carefully considered, and, thus thoroughly acquainted with it, a single spot determines at once the diagnosis, and may save the patient from a course of medication unsuited to him, or in very mild cases may prevent the sick man from incurring such exposure as might suddenly prove fatal to him.

During the war of the Rebellion a member of the medical staff of the Satterlee Hospital, very zealous and faithful in the discharge of his duties, had for a week suffered from debility and general malaise, with the merest trace of fever. Prompt to detect disease in others, he was less careful with himself, and, supposing that he merely needed rest and change of air and scene, had his trunk packed and his arrangements made for a visit to New York. A medical friend calling to see him the night before his proposed journey, not satisfied with the history of his symptoms, made a careful examination, and found a single but an unmistakable "red spot." The journey was stopped, the patient put to bed; a mild but positive attack of fever ensued, from which recovery happily followed. The recognition of this single spot, it is quite probable, saved to the profession

a life which has since been of much value to it.

It is generally stated in the books that there is no relation subsisting between the abundance of the eruption and the gravity of the disease. This may be true, but I always regard the occurrence of a copious eruption as a favorable symptom. I am not prepared to announce it as a law, but, so far as my observation goes, I have never known serious disease of the bowels to exist in this fever when there was a copious skin eruption. The converse of this proposition does not hold, as a single spot may also be associated with a very slight disturbance of the bowels.

A marked example of a very copious eruption has, within a few weeks, come under my notice. It occurred to a physician of a neighboring county, who, while having under his care a large number of typhoid-fever patients, became himself the subject of the disease. I saw him, in consultation with three of his medical friends, in what seemed to be the close of the second week of the fever. The eruption was an abundant one, and for the most part eminently characteristic; but with the ordinary isolated lenticular spots were several unusual eruptions. These last were circular patches about half an inch in diameter, and of a pale-pink color. A close examination of them showed that these circles were formed by the aggregation of individual lenticular spots, and that in this aggregated form they lay side by side, radiating as it were from a common centre,—that, in other words, they were not distinct but confluent. I had never seen such a grouping, and should have been puzzled as to its significance had there not been so many spots of the usual character elsewhere.

A careful watch for, and study of, the red spot, may prevent an error of diagnosis which has more than once occurred. Reference is now made to the occurrence in the summer-time, during, perhaps, an epidemic of diarrhœa or dysentery, of a mild case of typhoid fever, whose only obvious symptom is looseness of the bowels. Such a case might readily be regarded as one of the prevailing epidemic. The habit of examining the abdomen for the spot of typhoid fever in every case of diarrhœa would prevent such an error of diagnosis.

It is well to bear in mind also that diarrhœa is not always present in the early

* Medical and Surgical Reporter, June, 1862. American Journal of the Medical Sciences, April, 1864.

stage of typhoid fever; while, on the other hand, the fact that the bowels in a case of fever are not constipated, should always excite suspicion as to its nature.

Recent apparatus and observations have given much greater accuracy than formerly to the study of the temperature in this disease, and the thermometer is now as much employed in this as the stethoscope is in the study of cardiac disease. No one who has learned its value will be likely to lay it aside; and yet there are occasions in which the thermometer is not available. Sometimes it is forgotten and left at home, sometimes the index becomes immovably fixed in the tube, sometimes the thermometer is accidentally broken; there are some patients who are alarmed, and others who are nauseated, by its use. In the high delirium and fierce jactitation which are sometimes present, the use of the instrument is almost impossible. Hence it is a matter of importance that the graduate in medicine should early learn to notice the relative temperature of the body, should be able to recognize, when he takes his patient's hand in his own, by the feel of the skin, by the heat, dryness, or moisture of the surface, what the febrile state then is. The *tactus cruditus* is, indeed, as necessary for the practitioner of medicine as it is for the obstetrician or the gynecologist.

I pass by the ordinary symptoms of this disease, all of which are so well described in the books, pausing merely to say that early, persistent headache, even though it be but moderate, with an elevation of temperature and a tongue lightly coated, should always be regarded with suspicion, especially so if with these the patient reports that his bowels are loose, or that they are "regular."

Perhaps I may here say that, next to remittent fever, the two diseases which have given me most trouble in the early differential diagnosis of typhoid fever have been tuberculous meningitis in children, and influenza, or, as it should be called, epidemic catarrhal fever, in adults. Of course this difficulty can occur only in the very early stage of the disease, before there has been time for the eruption to appear.

When called to a case of typhoid fever, my own practice is always to explain to those having the care of the sick that the great dangers in this disease are from hemorrhage and from perforation of the bowel. I generally take a cambric handkerchief

and show to the nurse what such a perforation is, and how, from improper food, it may occur. Such an illustration doubtless adds to the anxiety of the nurse, but it also adds to the safety of the patient; and it is better to be temporarily anxious than to be permanently bereaved.

Without doubt, the safest and best diet for the typhoid-fever patient is milk; but milk is not altogether without its dangers.

Much attention has of late been called, in the English journals, to the importance of giving milk in small quantities at a time, and it is referred to as though it were a new observation or discovery of these writers. Those who sat under the teachings of the late Professor Wood well know that the caution against large draughts of milk was always given in his lecture on typhoid fever. In his work on the Practice of Medicine, printed in 1847, he says that milk should be given only "in small quantities, and frequently repeated." The discomforts from milk are not imaginary; I have more than once seen a hard, tough coagulum vomited after a copious draught of milk, and have known much pain follow accumulations in the bowels after its prolonged use; but I still think that, rightly administered, it is altogether the safest and best diet for the fever-patient. Sometimes it is well to boil it, and in many instances the addition of lime-water is useful.

For beef-essence I have a kindly regard, for the good I once thought it did, as one has for a friend of his early life, even though that friend may have failed him in later years. But I am thoroughly convinced that a sick man cannot live on beef-essence alone. It may be, and, when given hot and strong, it doubtless is, a grateful stimulant, and, as an adjuvant, comes in nicely; but, if the patient is not to be starved, it must be supplemented by milk. When it is used, I prefer that it should be made at home. Of the prepared articles substituted for this I decidedly prefer Johnston's Fluid Beef.

I cannot too strongly commend to those of the profession who may not have seen it an admirable little essay, by Dr. John F. Meigs, "On the Internal Use of Water for the Sick, and on Thirst." Its author justly says that it is absolutely necessary that the fever-patient should take freely of water, to reduce the temperature and to compensate for the unusual combustion of tissue which is going on; that his attendant

should not wait for him to ask for the water, but should frequently and systematically give it to him. I believe that if this were done we should see fewer cases than we now do of a dry tongue and a hot, burning skin. In this connection I may here say that I think we have rather lost, than otherwise, by giving up the use of wine-whey, which, it seems to me, is much less used now than it formerly was. I do not attach much value to the nutritive qualities of the whey, nor is there much stimulation in the small quantity of alcohol,—though there is some,—but its regular, prolonged use supplied a liquid which easily and promptly passed, by a dialytic action, into the blood, and thus helped to compensate for the loss of fluid from the blood and the tissues.

It must, of course, be left to the judgment of the physician to decide when, and in what form, alcohol becomes necessary. I confess to a preference for brandy for punch, rather than whiskey.

And here it may be well to call attention to the importance, in treating this disease, of strict attention to the particulars of that treatment. The care-taker of the sick should be told that when milk-punch is ordered it should be made in certain proportions. These, it is true, vary with different physicians. For my own patients I generally direct that one large tablespoonful of brandy should be added to four tablespoonfuls of milk which have previously been poured out and sweetened. To this a tablespoonful of lime-water may sometimes be advantageously added. Champagne, so useful in many diseases, is often inadmissible in this, from its tendency to act on the bowels, causing or keeping up diarrhœa.

It is sometimes necessary, especially in the country, to tell the nurse that wine-whey should be made from sherry or madeira, and not from claret or port, or from currant or other home-made wine; that ice should be pounded in a towel, and placed in a funnel lined with flannel, which is set in a pitcher deeper than the funnel, and the ice given to the patient from a spoon, and not in his fingers; that a poultice, to be of use, on the abdomen or elsewhere, should be a light one, covered with silk oil-cloth or gum-cloth, and not removed for many hours; and that in case of sudden and alarming fall of temperature, or of sudden failure of heart-power, much help may be

had from short stockings filled with hot salt, one of which should be placed in each hand of the patient.

These are little matters, which it will be said should be known by every one; but, unfortunately, in practice we find that such is not the case.

When called to see a patient with a fever which is at all a suspicious one, I direct for him, if it can be had, a warm bath (not a hot one); and I do so because of its soothing effect and because I wish the skin to be in a condition readily to perform the unusual duties which must soon devolve upon it. The bath should be given, if the weather be cold, in a warmed bath-room, and the patient not be permitted to make any exertion, and every precaution be used against taking cold.

It rarely happens that cathartic medicines are needed, but, should they be, by far the safest of them will be found in syrup of rhubarb or castor oil, a dessert-spoonful of which will be sufficiently active. All hydragogue cathartics, such as podophyllin or the compound cathartic pill, must, of course, be studiously avoided. A teaspoonful of sweet spirit of nitre in a large wineglassful of water will often, in this early stage, give the patient a quiet night, and the next morning will find him with little or no fever.

He should now have, in divided doses, fifteen grains of sulphate of quinine. Each physician has his favorite way of exhibiting this medicine, and I am no exception to the rule. I order twelve pills of three grains each to be made of quinine in which I have confidence, Rosengarten's or Powers & Weightman's, and the excipient I prefer is glycerin. A three-grain pill thus properly made is not a large one, and, served from a box in which powdered arrow-root is used, instead of the disgusting liquorice powder, is altogether acceptable to the patient. Old quinine pills or sugar-coated ones I carefully avoid. One pill at ten o'clock, two at eleven, and two at twelve are sufficient for the first day; indeed, in many cases the fifth pill may be omitted. Repeating the dose of nitre at bedtime, the following morning four pills (twelve grains) in divided doses may be given, and the next day three, which last number should be continued during the ensuing fortnight unless some contra-indication show itself.

As the disease advances in its regular

course, certain special phenomena show themselves, prominent among which is sleeplessness, with or without delirium. If the patient be a vigorous adult, I not unfrequently direct that at bedtime a little pill should be given him containing one-sixth of a grain of acetate of morphia and one-half a grain of the alcoholic extract of hyoscyamus. This is generally sufficient to give a good night's rest, or, if it be repeated during the night, it should not be done in a shorter interval than that of four hours. It is true that it has rather a tendency to give a dryish tongue next morning, though the combination with hyoscyamus lessens the probability of this. When chloral was first introduced, I thought we had found just the right hypnotic for typhoid fever,—a good night's rest and a moist tongue,—and I used it freely; but one or two idiosyncrasies coming under my notice, in one of which ten grains were followed by stertorous respiration and flapping cheek, and in the other by injected eyes and an aggravation of headache, made me more cautious in its use and led me to prefer the combination I have mentioned. Bromide of potassium in moderate doses is at best but an uncertain remedy, while in large doses, sufficient to produce sleep, it is very apt, in typhoid fever, to irritate the bowels and increase the diarrhoea.

Not unfrequently, in the course of the disease, there comes on a condition in which the remedy proposed by the late Dr. Wood—the oil of turpentine—comes in so usefully. I am well aware that there are physicians who look upon this medicine as of doubtful efficacy, while there are others who, like myself, regard it as of much value in the treatment of typhoid fever. It was not in every case of this fever that Dr. Wood gave turpentine: it is not in every case that it is needed. In his "Practice" he says, "It may be employed in all cases in the advanced stages of this disease, when the tongue is dry; . . . but there is a particular condition . . . in which I have seldom known it to fail; this is when the tongue, having begun to clean off, suddenly becomes quite dry again, and the process of cleaning is suspended, when there is an increase of tympanites, and an aggravation, or certainly no abatement, of the other symptoms." Doubtless, in such a condition it is pre-eminently useful; but I think it is best to anticipate this, and thus prevent the full development of the

lesions of which this dry tongue is the expression. In a case now under the writer's care, although the tongue remained moist, yet the lips had become dry and tense; and the turpentine was given with the hope of averting the dryness of the tongue, and with the most satisfactory results. And here occurred an illustration of the importance, in treating this fever, of attention to particulars. The emulsion was put up in a rural district, and the little patient complained greatly of the harsh, disagreeable taste. On examining it, I found it to be of strong resinous odor and a sharp, irritating taste. Dismissing this, and substituting for it the same prescription put up by one of the best pharmacists in the city, the whole character of the medicine was changed, and there was no further complaint of it by the patient.

The physician, therefore, especially in the country, should see to it that the turpentine used by him has not been exposed to the air, has not become resinous, and is exhibited in such a form as will not be disagreeable to the patient. It should always be given in emulsion, and not merely dropped on a lump of sugar, as is sometimes done. I have never agreed with Dr. Wood that the turpentine in this disease acted directly on the intestinal ulcers; I believe its action to be a systemic, not a merely local one; but I do not yield to him in my estimate of its great value in the treatment of typhoid fever. Dr. Wood used to say of its dose, that, for an adult, less than ten drops every two hours did not profit much; that more than this, given night and day, was unnecessary.

So many medical men in whose judgment I have confidence attach great importance to the use of the mineral acids, and especially the hydrochloric, in the treatment of this fever that I cannot doubt their value. I have, however, had but little personal experience in the use of them, and that little has not been of a very encouraging character.

A grave complication which comes on in the course of typhoid fever is the very feeble condition of the muscle of the heart,—a condition which, so far as drugs are concerned, is best remedied by the exhibition of brandy and ammonia. I should be very loath indeed to rely upon or to resort to digitalis as a heart-strengthenener in the advanced stages of this or any other exhausting fever, but should prefer to use

what I have named and tonic doses of quinine. Above all things else, it is here of importance that the patient keep the recumbent position, and avoid even a slight strain on the enfeebled cardiac muscles. Hence he should not rise from his bed even to a commode, but should use the bed-pan. I am well aware that this last charge is attended with many practical difficulties, and I have never yet seen a china bed-pan of which the patient did not complain. Indeed, I have sometimes feared that much harm was done by the unnatural position and straining required to use it. I therefore much prefer the hard-rubber article. Where this is not at hand, an excellent substitute may be found in the ordinary household dust-pan. This should be covered with an old towel, and may readily be slipped under the patient, the urinal having first been used.

Were this a treatise on typhoid fever, it would be proper to consider in detail the many suggestions which have lately been made with reference to its treatment. To one or two of these I shall briefly refer.

The use of those measures which will directly reduce the temperature in high fever has of late, and very properly, claimed much attention. Strictly speaking, it is the correction of the disturbed nervous action which permits, determines, or develops this elevation of temperature that is needed. The expression of that disturbance, as seen in the unnatural heat of the patient, is one of the obvious symptoms which may well claim attention. Hence the external application of cold is often a very valuable part of treatment, directly, by reducing the temperature, and, indirectly, by preventing the lighting up of local inflammations which this great heat may develop. It is true that these effects are not always permanent, and that the treatment itself is not always without danger.

In that terrible form of heat-elevation formerly described as *calor mordax*, a temperature of 104° F. and upwards, which is often found in typhus, and sometimes, though more rarely, in typhoid fever, very decided antipyretic measures are demanded.

More than twenty years ago I called attention to the analogy which existed in the condition of the typhus-fever patient when in this *calor mordax* state, and that which rapidly shows itself in cases of sunstroke.*

As I have long held that in this form of sunstroke there is no treatment so efficient as the rubbing of the patient with large pieces of ice, or, if this cannot be done, by using copious affusions of cold water, so I believe that this high, biting skin temperature of typhus may be most efficiently treated by similar ice-friction. In typhus there is comparatively little danger of organic inflammations; even the pneumonia which sometimes attends it is more hypostatic than acutely congestive. The duration of typhus is comparatively a short one, and so imminent is the danger to life that whatever is done must be done quickly. In typhoid fever, if the patient be treated from the start, the temperature rarely reaches this *calor mordax* state. Should it do so, the wet sheet or the cold-water sponging might well be used; and I can imagine very high temperatures in which the ice-friction might be permissible; but, as a rule, this last is uncalled for, and would be sometimes dangerous. There is in typhoid fever a strong tendency to the development of local inflammations, as of the bronchi, the lungs, the abdominal viscera, and the great veins of the lower extremities. Typhoid fever does not rapidly tend to death, as typhus does, and neither demands nor justifies the extreme measures which are called for in typhus.

This little paper is written not for the sick in hospitals or for their care-takers, who have about them all the appliances which science can suggest and the experience which a great hospital alone can give. Nor is it intended chiefly for the rich in great cities, who in sickness, as in health, have conveniences and luxuries which wealth can always command. Rather is it written with the hope that in its details, which are given with much simplicity, a suggestion may here and there be found which will be of practical value to those medical men whose lot it is to practise their profession in remote country places, where they have no one to look to for counsel or for aid, and where they are compelled to care for the sick under many privations, and sometimes amid the most unfavorable circumstances.

It is indeed one thing to prescribe for disease among one's books in the luxury of the study, and quite another thing to treat the sick man in his own home, face to face with him and his surroundings. Hence it is little short of mockery to tell

* American Journal of the Medical Sciences, January, 1859.

the practitioner in the country, where, relatively, typhoid fever is most prevalent, that it is best treated by daily or oftener placing the patient in the bathing-tub, when in not half of his patients' houses is a bathroom to be found. Indeed, under the most favorable conditions, I very much doubt if more harm than good is not done to the sick man by the perturbation it occasions him to have his clothing pulled over his head and shoulders, himself lifted bodily by two often awkward and careless men into and out of the bathing-tub, rubbed, and his shirts then pulled on again, all of which, inelegant as it seems even to write it, has to be done, and, if Liebermeister's advice be followed, six or eight times daily. As has already been said, a good, thorough ablution in the early stage and frequent careful spongings are both useful and necessary; and there are cases of very high temperature in which the wet sheet may be used with advantage; but more than this is rarely practicable or desirable. There is probably more to be hoped for in the so-called antipyretic doses of quinine than in an active hydropathy, though this, too, may be carried to an undue extent.

For the diarrhœa which is often a troublesome and exhausting complication, remedies administered by the rectum rather than by the mouth will always be found most efficient. Of these a suppository of one grain or of two grains of opium, or an enema of thirty or forty drops of laudanum in a tablespoonful of warm water, will generally be sufficient. Warm water is better than starch-water, and half an ounce will be retained when the quantity mentioned in the books—two ounces—would be rejected. Should internal medication be needed, we have in *paregoric* (tinct. opii camphorata, U. S. P.) a good, honest, old-fashioned medicine which has stood the test of time and comforted many a one,—I had almost said, from his cradle to his grave. This is really one of the very best preparations for internal exhibition in the diarrhœa of typhoid fever. Especially adapted to children, it is also admirably suited to adults, is safe, grateful to the stomach, mildly astringent, and, indeed, fulfils many indications, one of the most valuable of which is found in its soporific effect.*

* There may perhaps, without impropriety, be here mentioned a case in which the good effects of paregoric were very marked. A little boy 6 years old came under my care in

I have said that paregoric is a safe remedy, and this is a great recommendation, for, valuable as opium is, it is sometimes a very dangerous medicine in this or any other disease of great debility. I have often thought that much harm has been done by the popular-professional teaching that "opium is a stimulant."

In one sense of the word perhaps it is so. In small doses, given in health or in slight deviations from it, it may quicken mental action, brighten the intellect, and the heart's movements for a time may even seem stronger; but the temporary stimulation thus developed is a very different thing from that which is produced by alcohol, by ammonia, or by tonic medicines. In most cases it is rapidly followed by a grave exhaustion. Especially is this true of morphia, which, calming the brain and benumbing the great centres of respiration and circulation, may easily lull a feeble patient into a sleep which, this side the grave, knows no waking.

There are derangements of health, occurring to persons ordinarily strong and vigorous, which not only bear but require active treatment, and in which the healthy condition can be restored only by the exhibition of decided doses of medicine. These come to be regarded, and perhaps justly, as the typical doses of the medicines used, and, as such, are taught to the student in the lecture-room, and accepted by him. There are, on the other hand, times in the course of disease when the forces of death and of life are so evenly

April, 1880. He was near the end of the second week of his illness, and had, up to that time, been under the care of a homœopathist, who, I was assured, had confined his diet to gum-water, with the occasional eating of white grapes. The symptoms had become so alarming that the homœopathist was dismissed, and, with great reluctance, I consented to take charge of the case. It would indeed be difficult to undertake a more unsatisfactory charge. The lad was greatly emaciated, his pulse a mere thread, his blood so impoverished that his knees, where they touched each other, and the elbows, from pressure on the bed, had become ecchymosed. For five nights there had been persistent insomnia. There was no unmistakable *tache rouge*, but there were diarrhœa and decided delirium. I never felt more deeply the responsibility which rested on me, not only towards the lad and his family, but also towards the profession, which this change of treatment in the middle of his illness imposed.

I first saw him at 8 P.M. What real treatment, if any, he had heretofore had could not be learned; but it was imperative that something should be done for the night; and so, after giving the little fellow some brandy-and-milk, I could see my way clear to give him nothing more than thirty drops of paregoric with twenty of sweet spirit of nitre, to be repeated in two hours' time if he did not sleep. It was an immense relief to learn next morning that the second dose had been followed by a quiet and refreshing slumber, and that the little patient's condition had greatly improved. The case proved to be yet a very serious one, and required some weeks of close watching before entire recovery took place, in which I had the judicious counsel of Dr. J. F. Meigs; but to this day the family of my little patient have a grateful regard for paregoric and nitre.

balanced that, as it were, the weight of a feather may fatally depress the beam. At such a time, he who watches the balance must see to it that by no act on his part shall that fatal feather's-weight be placed there.

In the course of an exhausting fever, in the case of an emphysematous or greatly diseased lung, in a dilated and feeble heart, such a fatal weight may be found in one-half, or even in one-fourth, a grain of morphia, in twenty grains of chloral, in a two-grain extract-of-opium suppository, and in half a grain or less of morphia given hypodermically. The physician who prescribes from a thoughtful recognition of his patient's condition, and not merely from the books, will adapt his dose to that patient's condition, and will not, by paralyzing the medulla, further cripple a heart and lungs whose nerve-supply is already nearly lost. I trust I shall not be deemed querulous when I add that I have sometimes been amazed at the doses of opium, morphia, chloral, and salicylic acid which I have known prescribed not only for the young and vigorous but also for the old and feeble patient. It is so much better to give a small and safe dose, which may be repeated if necessary, than to give what, though regarded as the ordinary dose, may be a fatal one to a patient greatly enfeebled by age or disease.

Perhaps such caution will be deemed excessive and be regarded as a timidity of practice which is characteristic of age. I well know that increasing years bring with them an increased consciousness of the value to a family of the life of each member of it, and a deepened sense of our responsibility to those who intrust their lives to our keeping; but I cannot regard any watching as too great, or any caution as excessive, which may save children from the dreary uncertainties of orphanage or parents from that loneliness of hearth and of heart which belongs to a childless old age.

Hemorrhage from the bowel is regarded, next to perforation, as the great danger of typhoid fever; and when it does occur it is certainly a grave symptom. I cannot but think that, in this country at least, it is not of such frequent occurrence as has been supposed. It has happened to the writer, in public and in private practice, to see a good deal of typhoid fever, but, excepting in the Chickahominy cases, he has

never had a hemorrhage occurring in the course of this disease. He does not claim this exemption as anything else than his good fortune, though he has a hope that the early exhibition of turpentine has had its value in preventing this accident.

He cannot, therefore, speak from experience, but, *a priori*, he would expect benefit from the exhibition of Monsel's solution of iron, fifteen drops in a large wineglassful of sweetened water, every hour or two, or, if this be not tolerated, a pill of acetate of lead gr. ii, opium gr. $\frac{1}{4}$, every two hours. This may be supplemented in some cases by turpentine stupes to the abdomen; in other cases by ice to the abdomen and by astringents in the rectum.

When convalescence has been established, there comes a time when there is no longer a loathing of food, even though the appetite may not be fully developed. One is sometimes almost at his wits' end to suggest a dietary suited to the capricious appetite of his patient. Not knowing where to find such a dietary, I venture to put on record here what I have found to be safe and palatable.

The diet having consisted chiefly of milk, a wineglassful of cream may now be substituted, and, as an approach to solid food, there may be dipped into this and eaten the little flat sponge-cake known as the "lady-finger," but which, from its shape, might be better called "lady's sandal," and which must not be confounded with the unwholesome cake known as the *croquant*. Next in the ascending scale we may allow vanilla ice-cream, taking care that it be fresh and sweet. For those who like it, chocolate cream may, after a time, take the place of vanilla, and a cup of cocoa may be taken at breakfast. A little later the yolk of a soft-boiled egg may be eaten, or that of one boiled for a long time and broken up with the bowl of a spoon into powder. A potato, roasted with the skin on, may perhaps be now allowed, with a little butter and salt. Nutritious soups may also be given, but, even at this stage, it is best to strain them. A thin piece of roast beef, or the tenderloin of steak, may next be chewed, but not swallowed. A little later the white meat of poultry finely cut up may be eaten; but small birds, especially reed-birds or rice-birds, should be avoided, on account of the danger from the little bones, fragments of which have sometimes been fatally swallowed. Oysters

roasted in the shell are very appetizing, and, when convalescence is fully established, may be safely taken. Various dishes usually taken at dessert—floats, cup-custards, jellies, Spanish cream, and the like—may safely vary the *menu*.

Later in the convalescence there comes a fierce appetite, which needs curbing rather than urging.

In the *London Lancet* (November 15, 1879) there is an admirable paper by Sir William Jenner on the treatment of typhoid fever. It is marked by such modesty and by such real merit that it is with extreme reluctance I venture in any way to object to it. But I cannot, in justice to my own convictions, refrain from expressing my dissent from that portion of it which forbids the removal to his home of the typhoid-fever patient who has been taken ill while away from that home. I am the more compelled to refer to this because the advice has been adopted and repeated by the author of the best American treatise on typhoid fever which has for many years appeared among us.

Whoever has known, in himself or in one of his family, what it is to be ill away from home, at the sea-side or at a distant mountain-resort, knows what, even under the most favorable circumstances, such an absence implies. There is to the sick man himself the dreary, depressing consciousness of being away from his home, which he may never again see, the absence of his home comforts, the difficulty of obtaining the needed medicines, the greater difficulty in promptly getting his own physician, except at great cost or at great personal sacrifice on the physician's part; while with the family there is the very serious inconvenience of being with the sick man, or the distress of separation, heightened by the daily and often unsatisfactory telegram. And when, after weeks of such anxiety and discomfort, there comes the dreaded message that the end is at hand, there is the hurried journey to be made to the dying, and the sadder homeward journey with the dead. Surely, one who has known all or aught of this will admit that it is far better to bring the sick man to his home, even though his safety might be somewhat risked by it. But I confidently assert that, so far from his safety being endangered by it, in the large majority of cases the patient's chance of recovery will be increased by the removal and its consequences.

It is a very different thing to travel in an English railway carriage and to make a journey on one of our railroads, with its drawing-room and sleeping-cars, where one may be almost as comfortable as in his own bed. We need but recall how our soldiers with this fever so well bore even the rude transportation of the war to know that such journeys may be safely made. One of my own patients, a few years since, though at the beginning of the third week of this fever, came safely through in a sleeping-car from Cincinnati to Philadelphia,—a journey of more than seven hundred miles,—and certainly without any aggravation of the disease, from which she happily recovered. I would therefore strongly urge that, if he be at all near the line of a railway, or if there be no very rough road to travel over, the typhoid-fever patient should be brought to his home at the very earliest suspicion of the disease. But his ticket of travel should be a through one: there should be no stopping by the way.

I read in the text-books and in the journals of various special remedies for typhoid fever, among which are carbolic acid, tincture of iodine, nitrate of silver, and salicylic acid. Some of these are recommended by men whose experience is a large one, and in whose judgment I have entire confidence. I do not doubt the correctness of their statements, although I have no personal experience with these medicines. But for myself, I am bound to say that whatever of success I may have had in the treatment of typhoid fever has been in direct proportion to the simplicity of that treatment. Attention to minuteness of detail, both in what I do myself and in what I order to be done by others, frequent visits to the sick, constant vigilance with respect to diet, the avoidance of all harsh and dangerous drugs, and the use of such simple medication as has here been indicated, have, in their results, been sufficient to satisfy me in the past and to make me hopeful for the future.

PHILADELPHIA, 1200 ARCH STREET, March 20, 1882.

A FATAL MISTAKE IN DISPENSING.—A hostler at one of our railway-depots being taken ill with cramps on the 9th instant, some incompetent individual in charge of a medicine-chest gave him laudanum by mistake for peppermint. The coroner's jury brought in a verdict in accordance with the facts: no one to blame.(!)

AN OBSCURE FORM OF 'SYPHILITIC AFFECTION OF THE BRAIN.

BY HUGO ENGEL, A.M., M.D.,

Professor of the Principles and Practice of Medicine, and of Clinical Medicine, at the Medico-Chirurgical College, etc.*

SYPHILITIC affections of internal organs are generally considered as belonging to the tertiary form of lues, but certain brain-lesions appear so early in the disease that they have to be either looked at as very early manifestations of tertiary syphilis or classed with the secondary symptoms. There exists especially one kind of specific affection of the brain, which at first so closely imitates apoplexy due to congestion of the brain, or later epilepsy, that the practising physician might easily be misled. The timely recognition of the real cause is of the utmost importance, however, as every day's postponement of the only effective treatment induces more and more grave organic changes. And what makes matters still worse for the unsuspecting diagnostician is the fact that the lesion of which we are speaking generally happens in cases where the secondary symptoms have been exceedingly mild or were totally absent, so that the patient himself is utterly unaware of the nature of his disease, and will give the necessary information only when it is inquired after, to say nothing of the unwillingness and hesitancy with which some patients tell the history of their shame. The better to illustrate the affection, I will give a short report of three typical cases of it which came under my care.

March 7, 1879, I was requested to come as rapidly as possible to a wholesale store in Fourth Street above Market. On my arrival there, I found the clerks and salesmen all in great consternation, and on a table a young man in an unconscious condition. His face was pale, the pupils dilated, not responding to light; the breathing was slightly stertorous in character, the temperature in the axilla 97°, the pulse 82 and regular, and occasionally a slight twitching of the muscles of the right arm and right leg, but not of the face, could be observed. There was no organic lesion of the heart, and no œdema anywhere discernible. I was told by the pa-

tient's brother, who was present, that the patient, a salesman of the house, John C. by name, and 27 years old, had never had a similar attack in his life; that he had been totally well the whole morning, but about half an hour before my arrival, while talking to a customer, he suddenly reeled and fell down. They also had noted convulsive movements of the right arm and leg, but not of the face; there was no frothing at the mouth, and he had been looking pale from the very beginning. This was the history I obtained from the brother, who could give me no further information. Here was a case presenting the following characteristic features. A young man, with no symptoms of Bright's disease, no discharge of the ear, no organic affection of the heart, no history of accident or of petit mal or epileptic seizures, while apparently in perfect health, had suddenly fallen down unconscious, with localized convulsive motions. My suspicions were aroused at once. Hemorrhagic apoplexy rarely, very rarely, happens at so young an age, except the serous variety due to Bright's disease, or apoplexy due to embolism from organic affection of the heart. Age was against both, and heart-disease did not exist here. Then there were convulsions at the very beginning. These are found only in apoplexy with large effusion at the base, which always shows an exceedingly irregular pulse and is invariably fatal; while in this case I could observe already the beginning symptoms of returning life. Epilepsy does not commence suddenly at this age, unless petit mal, at least, has been present before, or there is a history of injury to the skull. While reflecting in this way, and awaiting the return of the boy whom I had sent for croton oil, the patient opened his eyes. A few minutes later he arose, and, though feeling still a little giddy, he was perfectly able to walk. Apparently the attack had done no injury: the slight vertigo was the only symptom the patient complained of. He remembered nothing of the attack. His brother immediately took him home in a carriage, and I promised to visit him later, which I did. When I then asked him if he had ever had syphilis, he was very much surprised, as his physician had positively told him that he was totally cured of it. He had had a chancre three months before; this had healed within three weeks, when

* Two weeks ago Dr. Engel severed his connection with the Medico-Chirurgical College.

the doctor discharged him, saying that he would never have any further trouble from the sore. The patient then showed me his chest and abdomen, which were sprinkled with spots of brownish syphilitic pigmentation of the skin, and asked if that too was an evidence of syphilis. He further informed me that for the last few weeks he had been suffering occasionally from headache, but only for an hour or two at nights. I put him under the treatment soon to be described, and never to this day has he had another attack.

In September, 1879, John Q., 46 years old, married, and a remarkably healthy-looking man, consulted me at my office. He gave the following history of himself. For six weeks he had been suffering, more or less continuously, from a headache, which was comparatively mild in the morning but became worse every afternoon and was most intense the first part of the night. The pain was not confined to any particular place, but seemed to be all over the head. The patient had, besides, twice during the preceding week fallen down unconscious, and been told by persons who had seen him during the attack that he had a fit and that his whole right side had been convulsed. He could not say if the convulsions had also affected the face. He had never had fits before, nor had anybody in his family; but he had been ailing from malaria six years ago, and a physician had lately told him that his spleen was enlarged, and that all his symptoms were due to malaria: the treatment, however, based upon this diagnosis had been without the least effect. Only after direct inquiry the patient hesitatingly admitted having had a sore at his penis nine months ago, which had rapidly healed, however, and never been followed by any eruption or any sign of constitutional affection whatever. The most careful inspection revealed no syphilide, nor any mark or cicatrix, neither could any organic lesion be detected; but I found two cervical glands enlarged. The specific treatment removed all symptoms in this case also, and proved beyond a doubt that syphilis was here too the cause of the complaint.

In 1876, F. F., a young man 29 years of age, visited me. He was a civil engineer, and seemed physically to be in robust health, while he was mentally one of the brightest intellects the most careful edu-

cation and training possibly could produce. One of the greatest coal-operators in our State had consulted the patient's brother in Vienna, one of the best-known physicians in Europe, and, meeting F. F., had engaged him as chief engineer for his mines. The patient, who understood his own case very well, gave me the following history of himself. He had had a hard chancre about a year before, which was followed within two months by secondary syphilis, first by roseola and then by a mild psoriasis palmatis. His brother cured him of this; but after having been free from any specific symptoms for about three months, and having paid no attention to certain warning symptoms, such as irregular headaches at night, he fell down one day in the street unconscious. He was informed that this attack was due to syphilis, and, taking proper medicine for it, he had no more till he came to America, when he had six seizures within the first week after his arrival here. I prescribed for him, and he again remained free from any symptoms for two months; but, as he never took his medicine regularly, except when the utmost necessity compelled him to do so, the epileptiform attacks again came back, and he had twelve on one day. Once, more, however, they were controlled by treatment; but, he continuing his careless way of taking his medicine, the seizures returned one night, and he died in one of the attacks.

These three cases give a faithful picture of the disease. In the last case the patient himself was to blame for the return of the seizure and his early death, as he knew the nature of his malady; but it generally happens, as in the first two instances, that the patient has no idea what really ails him. In such cases the chancre has mostly healed with great rapidity, and the secondary symptoms were either totally wanting or very mild and soon removed. Irregular pains in the head, mostly appearing at night or getting worse towards evening, but often very severe, and some vertigo, are generally the first warning symptoms. Then the patient has a mild apoplectic attack; he falls down unconscious, and slight convulsive movements are observed on one side of the body. Very often atrophy of one optic nerve sets in after the first seizure. If now the patient be not put under a specific treatment, the seizures return with increased fre-

quency, and assume fully the nature of epileptic attacks. The main diagnostic points are the following. First, the history of irregular headaches, intense often at nights; then the age of the patients, who are, in the vast majority of cases, too young for apoplexy; then the apparent want of cause for the attack. There is no heart disease, no morbus Brightii, no history of epilepsy in former years, and no accident or injury to the skull, to account for it. If once fully developed, there is another point characteristic of these epileptiform seizures when due to syphilis. Many such attacks, ten to twenty of them, will happen during twenty-four hours; they appear in rapid succession; then follows a pause of one or several weeks, during which the patient has only the irregular headache mentioned, when one day the seizures return and are just as frequent. Further, the skin of these patients, especially on the forehead and around the eyes, has generally a peculiarly dirty, yellow-brownish color, and we find enlargement of one or two cervical glands, usually just below the occipital bone, and augmentation in the size of the spleen. The patients will admit after inquiry only that they had a chancre, and sometimes flatly deny it. The cases reported teach us, further, always to have suspicion when such seizures happen in comparatively young persons and there is an apparent absence of any cause.

And what is the pathology of the affection? There takes place first a perivascular infiltration around the capillaries; a gumma-like mass invades the cellular tissue. Later the coat of the vessels becomes affected. During this time the patient feels giddy, and has headache. Afterwards the gummatous infiltration becomes greater in amount and more solid: it then acts by its pressure upon neighboring nerve-tissue, it assumes more and more the character of a foreign body,—of a *tumor* of the brain. Then the epileptoid attacks begin, which become the more numerous and the severer the denser and larger the deposit. Local palsies depend upon the seat of the lesion. The morbid condition is often found at the base of the brain, but in cases with localized convulsions the lesion is met within the fissure of Rolando and the motor area, the ascending parietal convolutions; but the infiltration may take place anywhere in the brain. On examination, one, and often both, of the optic

papillæ appear congested; there is a choked disk.

The treatment which has proven most successful with me, and invariably so if the patients persevered in it, is the following. I prescribe first:

R Unguent. hydrarg., ʒii.

Divide in chartulas ceratas no. xvi.

S.—Externally.

The patient has to rub into his skin daily the contents of one paper (ung. hyd. ʒss). The inunction is made every day at another place,—viz., over the parts and in the order named: inner side of left calf, of right calf, of left thigh, of right thigh, of left arm, of right arm, left side of trunk, right side of trunk. If then the treatment has to be continued, he takes a warm bath, cleanses his skin thoroughly with soap, and changes his underclothing before going over the same course of inunctions in the same order again. Every new course begins with the same procedure of cleansing. This treatment I employ only during very warm weather, or if the patient can stay confined to his room. If these conditions cannot be fulfilled, I adopt the following method, prescribing:

R Hydrarg. chlorid. mit., gr. iii;

Extracti opii, gr. ii.

M. c. glycer., etc., ut fiant pilul. no. ix.

S.—One pill three times daily.

Every third day—*i.e.*, when all the pills have been taken—I give the same prescription, but always with the addition of one more grain of calomel. Either the inunctions now, or the pills, are continued until decided salivation, and even a little ulceration of the gums (always near the last molar tooth of either side of the lower jaw), have set in. Then a dose of magnesii sulphas is administered; the patient dissolves one ounce of chlorate of potash in a quart of water, and rinses his mouth every half-hour with the solution, while he takes two teaspoonfuls of it internally every two hours. This is continued for about ten days, when the affection of the mouth is always cured. Generally, every third day I touch the sore places of the gums with a glass brush dipped into pure nitric acid, and brush at the same time very slightly over the whole gum near the teeth. This procedure is a little painful, but the smarting lasts a second only, and the improvement following it is great. Mostly I let the patient use the mouth-wash of chlorate of potash about three

times daily for some weeks longer. After the ten days are over, the patient takes the following medicine :

R Potass. iodid., ℥i;
Aquæ destill.,
Tinct. cinchon. comp.,
Syrup. sarsap. comp., aa f℥ii.

M. S.—Shake well. Two teaspoonfuls in half a tumblerful of water three times daily, two hours after meals.

The patient has to take this medicine for about three months. If any symptom whatever, even a slight giddiness or a headache, should show itself during these three months, I increase the dose by one, two, or more teaspoonfuls (each containing gr. x), and continue whatever dose may be necessary, till the patient for a period of three months has had no symptom of a return of the disease. I then advise him to take during the remainder of his life, twice a year, in the spring and autumn, two teaspoonfuls of the medicine for three weeks,* as a precautionary measure, and he will never again be troubled with any symptom or sign of his disease. Of the many cases I attended I remember only one which I had to put twice under the mercurial treatment; and this individual led a very dissipated life. I may add that if the epileptiform attacks have already been very frequent when the patient comes under my charge, I give him fifteen grains of the bromide of sodium three times daily for a short time, till he is fully under the influence of the specific treatment, to guard against any possible further seizures.

In conclusion, I may record a remarkable observation I have now made a number of times. It will occasionally happen that persons who have suffered from syphilitic nervous symptoms, and have apparently been cured of lues, suddenly will begin to grow very stout. They may have been corpulent before they ever were attacked by syphilis, or the tendency to *embonpoint* may have existed in them, or they may have been very slender or have become so only in consequence of the syphi-

litic cachexia; all these conditions apparently do not influence the fact that certain individuals, as soon as they are free of all symptoms of the disease and while still under the treatment by the iodide of potassium, will develop a remarkable tendency to accumulation of adipose tissue. But, what is still more striking, whenever this corpulence has been very apparent, my experience has forced me to look upon it as a very unfavorable symptom. All such persons, of whom I have been able to follow up the later history, have died within at latest four to five years, no matter what their age at the time of the primary affection.' And this same experience I have made not alone in individuals with nervous syphilitic affections (though more frequently in them), but in those who had shown syphilis in any form. Only in one case, however, did I attend the person when dying. He had been free from any symptom for a little over three years, but, though only twenty-nine years of age, had become remarkably stout. Three months before his death he had complained of pain in the right hypochondriac region, and dyspeptic symptoms. There were undoubtedly several large gummata in his liver. Ascites developed, and, notwithstanding the best of care and the medical treatment indicated, he died under symptoms of exhaustion. There was certainly no cirrhosis of the liver. A post-mortem was not permitted. * I must add, however, that all those persons I speak of had been regularly using alcoholic drinks; *i.e.*, they were not drunkards, but habitually took intoxicating liquors. I know of no case of total abstinence where, under the same circumstances and *ceteris paribus*, the same tendency to corpulence developed itself and the case ended fatally within five years. As far as my inquiries can be relied upon, none of these persons had shown after their apparent cure any, cachectic symptoms of lues till a few months before their death; and while of some I have not been able to find out the cause of death, of those of whom I could learn it, dropsy was given as such. At the same time, none of the cases, with perhaps one exception, gave a history of sufficient alcoholism to have produced cirrhosis of the liver; nay, of two I know for certain that they drank occasionally only beer or German wine, and they were all only moderate drinkers. But that even the most

* As the mixture with iodide of potash is rather expensive, I generally give my patients the following advice. They are to buy at a wholesale drug-store five six-ounce bottles, five ounces of iodide of potash and five fluidounces of the compound syrup of sarsaparilla. They are then to put into each bottle one ounce of the iodide of potash and one fluidounce of the sarsaparilla-syrup, and fill the bottles up with hot water. One teaspoonful will represent ten grains, and two teaspoonfuls the dose. In this way the patient pays for five bottles of this medicine about the same as the apothecary would charge him for one.

moderate use of alcohol must form a factor in such cases is proved by the fact that not a solitary case has come to my knowledge in which the same corpulence and the same fatal ending had been connected with total abstinence. Other observations have induced me to think that the regular, long-continued, and often-repeated administration of large doses of iodide of potassium in combination with the habitual, if ever so moderate, use of alcoholic liquors may act in some way as cause for the facts noted, and I have been for a long time in the habit of advising such patients to abstain utterly from alcohol in any form. I publish these observations only in the hope that further inquiry may either develop the real cause or prove them to have been accidental occurrences. I know now, and have the record of, eight such cases, three of which happened within the period of two months, and it was especially the rapid succession of these cases which drew my attention to the facts mentioned.

PHILADELPHIA, 507 FRANKLIN STREET.

KERATO-MALACIE (SPHACELUS), WITH A CASE.

*Read before the Philadelphia County Medical Society,
January 11, 1882.*

BY WM. S. LITTLE, M.D.,

Ophthalmic and Aural Surgeon, Church Home for Children.

THE reporting of the following cases affords an opportunity to describe an affection of the cornea which is symptomatic of a brain lesion, with a neuro-paralytic condition of the fifth nerve distributed to the cornea, and which affection of the cornea is not to be considered a local disease.

August 31, 1881, a physician brought to the eye department of the Jefferson Medical College Hospital a female infant, 10 weeks old, for the treatment of its eyes, the condition, both general and special, not having improved under his judicious care. The following is the history of the case.

Two weeks prior to my seeing the child, which had been apparently healthy and free from ocular trouble, it had been seized with spasms,—not violent or constant, but persisting for a week; then a very severe diarrhœa ensued. The second day after the attack of diarrhœa, cloudiness of both corneæ occurred at the lower half of each cornea, unaccompanied with conjunctival symptoms, circumcorneal injection, or swelling of the lids. The

cornea of each eye rapidly became opaque, the tissue began to soften and break down, and loss of substance occurred in each cornea, more markedly in the left eye, commencing at the lower sclero-corneal margin. This destruction of tissue progressed from day to day, not yielding to treatment. On the fifth day after the cornea was involved, the case was seen in consultation, when there was observed no swelling of the lids; faint circumcorneal injection, little secretion, in fact only broken-down corneal tissue formed this; the conjunctiva was dry, and at the sclero-corneal margin, where the tissue was lost, the conjunctiva was rolled upon itself. Both eyes were free from lachrymation, and the conjunctival tissue and cornea anæsthetic.

The cornea of the right eye had undergone the loss of one-quarter of its substance from below upward, and the iris was exposed, corresponding to the corneal tissue lost, covered in part with the broken-down tissue. The cornea of the left eye had suffered to the extent of one-third of its tissue from below upward, and the iris to the margin of the pupil was uncovered.

The infant was emaciated, and looked as if dying, emitting a sweetish odor. The diarrhœa had ceased for two or three days, and the infant had been nursing again.

Muriate of pilocarpine (one grain to the ounce of water) was ordered to be dropped into the eye, to endeavor to check the process of destruction and also to act mechanically to prevent the escape of the crystalline lens, by keeping the pupil closed as much as possible. The iris seemed to be free from involvement, at least any due to inflammatory action.

Hot applications to the eye and body were advised, the body to be bathed with whiskey, and the same taken internally. A prognosis fatal to sight and to the life of the child was given.

September 2.—There was little change for the better.

September 3.—More corneal tissue involved. Nitrate of silver (twenty grains to the ounce) was applied to the cornea. Other treatment continued.

September 9.—Only one-third of the cornea of the right eye remained, and only one-fifth of the cornea of the left eye, and this at the upper margin. The iris in each eye was exposed as if the cornea had been dissected off, the cornea having broken down and disappeared, unaccompanied with inflammatory action. The child remained in a stupid state, and finally passed into a comatose condition, and died September 23.

The announcement of the death came too late to obtain the promised post-mortem.

This sudden rapid destruction of the corneal tissue is called kerato-malacie,—a necrosis of the cornea.

It is to be differentiated from the inflammatory processes and ulceration that occur in the cornea from traumatism, accidental and operative; from the changes that take place in it secondary to purulent, gonorrhœal, or diphtheritic conjunctivitis, and ophthalmia neonatorum; also from the local inflammations of the cornea due to syphilis, variola, erysipelas, or any cause producing local action.

The involvement of the cornea from disease of the fifth nerve alone is somewhat like it, and, if progressive, will produce it if the lesion be at or near its origin.

In herpes zoster ophthalmicus involving the cornea the general symptoms are wanting; the Gasserian ganglion being involved, the local symptoms are marked.

The affection of the cornea in Bell's palsy is to be accounted for more by the deposit of foreign material on the cornea from inability to close the lids, unless the lesion be deep and involve the fifth nerve as well as the seventh nerve. The more peripherally the seventh nerve is affected, the less the cornea suffers.

The cornea, though, like the sclera, very rarely suffers in attacks of rheumatism. I have seen it occur once during an attack of severe gonorrhœal rheumatism, no conjunctivitis or iritis accompanying the attack.

The form of corneal affection described is preceded by convulsions or loss of consciousness, though sometimes these are absent; but profuse diarrhœa, with or without vomiting, seems to be a constant occurrence a day or two before the cornea is attacked, and all are to be associated with a brain lesion of severe character, central and rapid in progress, especially in infantile and early life. The corneal affection is the most apparent symptom of the necrotic process affecting the whole system, it and the retina being the most rapid to undergo change after death.

In the case reported there was no doubt an encephalitis involving the fifth pair on both sides at or near their origin and outward, producing a neuro-paralytic condition of the brain and fifth nerve. No doubt the other nerves were involved, the age of the child and its general debility making it impossible to add to these notes their condition. The cornea afforded the most easily observed symptom of general necrosis. Whether both optic nerves were involved in this case I was unable to sub-

stantiate. In a general encephalitis it is to be looked for.

The freedom from conjunctivitis, dryness of the conjunctiva, absence of circumcorneal injection pointing to involvement of the vascular tissue of the eye, non-inflammatory condition of the cornea, with no swelling of the lids, and general anæsthesia of the conjunctival sac and corneal tissue, are the most prominent symptoms, along with the loss of tissue, in keratomalacie.

Its presence in infantile and early life is prognostic of a fatal termination, and in adult life the same has been found to be the case.

A. von Graefe attributes it to infantile encephalitis, diarrhœa preceding the corneal involvement in early life,—all his cases dying. Hirschberg held the same opinion, and obtained the same result; saw it occur with variola. Förster has seen it occur in children three to nine years of age: though sight was lost, the children lived; in a case of dysentery, with fatal result, both corneæ were affected. Gama de Lobo calls it ophthalmia Braziliãna. He found it among the slave children, profuse diarrhœa preceding it, and all the cases dying. Arlt describes it as a kerato-malacie. One of his cases occurred after scarlet fever, with diarrhœa; the other after cancrum oris, having diarrhœa,—both dying. Hildreth observed it in a woman 52 years old, having chronic diarrhœa, who died. Adler saw it with variola on the eighth day; Fischer, following measles.

Cholera, typhus fever, and puerperal fever may produce it, brain lesion existing and diarrhœa preceding the corneal affection. Klebs found marked hyperæmia of the white substance of the brain, with fatty degeneration of the neuroglial element. Virchow calls it a chronic encephalitis. Jastrowitz ascribes it in children to an improper development of the brain in the later foetal months and the early infantile life. Saemisch and Förster, in "*Handbuch der Gesamten Augenheilkunde*," present the condition and literature of the subject.

Whether it is only the trophic nerve-cells of the brain that are involved in this class of cases affecting the cornea, or whether it is the brain-tissue with the tissue of the nerves passing from the brain along with the trophic nerves,—or, more correctly speaking, the trophic nerve-cells,—with our

present knowledge it is difficult to determine. The symptoms of shock being so prominent suggest a serious brain lesion. Injuries to the spine, producing necrotic processes, and these localized, are more frequently observed, and the same condition, as the result of spinal irritation and pathological changes, has been noted.

Dr. J. S. Wight, Professor of Surgery in the Long Island College Hospital, in an interesting paper,—"Some Points in Regard to Trophic Nerve-Cells,"—presents the condition due to spinal disease, and illustrates his point by the corresponding action taking place in the cornea from disease of the trophic nerve-cells supplying the tissue.*

A case has recently been observed by me, where, in a man 59 years of age, a condition very similar, but less marked, and involving only one eye,—the left,—has occurred, and in which the condition yielded to treatment so far as the eye was concerned.

Patient seen December 5, 1881, seven weeks ago; was seized with severe attack of diarrhoea, from no assignable cause. A week later, became unconscious, having a second severe attack of diarrhoea; second day after this, felt the left eye sore and vision impaired, and became worse, when he came for treatment of his eye-trouble. Patient emaciated; appetite poor; has been troubled with nasal catarrh; nasal septum perforated; is dizzy at times, with tendency to fall to the left side; very melancholy; cries easily; mother and sister had been insane. Tongue deflected to right side; sense of taste impaired on left side of tongue. Left side of body weaker than right. Been deaf in both ears since attack of diarrhoea. Right ear does not hear watch on contact; left ear hears watch at two inches. Right eye not involved; pupil normal, though no comparison could be made with left pupil, as the cornea of that eye was opaque. The lids of the left eye were not swollen, and no conjunctivitis present; no signs of iritis, as was proved when the cornea cleared off, exhibiting no adhesions to the crystalline lens. The epithelium and endothelium of the cornea were not involved, but the corneal tissue proper was of a whitish color, deeply striated, and nearly all of it affected. The eyeball was reduced in tension, and painful on pressure in the ciliary region; sensitiveness of the cornea reduced. He denied all history of syphilis, but Dr. J. C. Wilson, who saw the case with me, thought it to be a brain lesion involving the cerebral nerves and due to syphilis. He was put on tonic treatment and large

doses of iodide of potassium with mercury, and local treatment for the eye-trouble. After a few days the cornea cleared off so as to see the iris; and when he returned home, only a slight vertical opacity remained in the meshes of the cornea. His hearing remained the same. His friends were informed as to his condition, and that the eye-affection was not the most important condition to look after.

While this case cannot be classified with the one first described, it comes very close to the same condition, and exhibits what cannot be made out in infantile life,—the affection of other nerves than the fifth in such cases. All the grades of keratitis neuro-paralytica are important to understand, as they throw light on the character of the nervous lesion and its severity.

219 SOUTH SEVENTEENTH STREET.

A CASE OF BELLADONNA-POISONING—SUCCESSFUL TREATMENT WITH MORPHIA HYPODERMICALLY.

BY CHARLES A. SEWALL, M.D.,

Acting Assistant-Surgeon U.S. Army; Post Surgeon.

IT is needless to remind any one of the extreme caution necessary in dealing with poisonous drugs, as the following case will show.

In the hospital under my charge, a solution of atropia (four grains to the ounce) was prepared for instillation into the eye. When the solution was made, the water being a little cloudy, about a drachm, representing one-half a grain of atropia, was left in the bottom of a graduated measure. One of the attendants, an intelligent man, needing a glass of water, picked up the measure, and, filling it up, drank it off. I saw the patient fifteen minutes afterwards, at twelve o'clock mid-day. He was lying down, being unable to stand. The face was flushed, and there was intense vertigo; but he was able to talk, and said indistinctly that he knew he must have taken atropia by mistake, even mentioning how much he thought he had taken. The pulse was 140; respiration correspondingly increased. The countenance wore a peculiarly anxious expression, which I think one might recognize again in a like condition, suggesting the idea that it might be a distinctive expression. Although photophobia was marked, the eyes were wide open, and he shaded them with his hand. The pupils were largely dilated. There

* See Medical and Surgical Reporter, vol. xlv. Nos. 2, 3, and 4.

was a sense of formication all over the body and tingling in the ends of the fingers and toes; the tongue was moist to the sight and touch, but the man said it felt as "dry as a chip," and the throat seemed almost as if its sides were stuck together. Hallucinations of sight and hearing were present, but, as I have noticed before in a similar case of narcotic poisoning, the patient was unable to remember anything he had seen or heard except for a very short time. Morphia (one-sixth of a grain, hypodermically) was immediately given, and its effect carefully watched. In twenty minutes, the symptoms still continuing, one-quarter of a grain of morphia was given hypodermically, with immediate beneficial results. The pulse went down to 120 beats, and the whole condition became easier. An attendant was left by the bedside, with instructions not to let the patient go to sleep.

I saw the patient one hour later; tingling and increased pulse were coming on again. Gave another one-quarter of a grain of morphia hypodermically; watched the patient half an hour, and the pulse went down to 100. The condition improved until evening, when another quarter of a grain of morphia was given. There was marked relief in a few minutes; and, as the man seemed to be doing pretty well, he was allowed to go to bed. He slept well during the night, and next day recovery was complete, with the exception of slight dizziness.

The action of the morphia administered hypodermically in this case, I think, cannot be called anything else but satisfactory in every respect. No emetics were given when the case was first seen, from the fact that, the poison being so largely diluted, it was thought that absorption from the stomach into the system had already taken place.

FORT CUMMINGS, NEW MEXICO, March 15, 1882.

THYMOL SOLUTION FOR EMBALMING.—

Thymol, 5 parts;

Alcohol, 45 parts;

Glycerin, water, aa 1620 parts.

VIRODTZEFF.*

For embalming, either by injection or by macerating, but the latter method should not be too prolonged. If the cadaver be well nourished or fat, the amount of glycerin is to be diminished one-third and the water proportionately increased.

* Scientific American; from Balsamirovanic, vol. xi. 164, St. Petersburg, 1881.

NOTES OF HOSPITAL PRACTICE.

HOSPITAL OF ORAL SURGERY.

SERVICE OF PROF. J. E. GARRETSON.

Reported by S. P. COTTRELL, M.D.

MEDIAN OPERATION FOR STONE.

GENTLEMEN,—The ordinary duties of the clinic being over for the day, I invite such of you as choose to remain to see the performance of the median operation for stone in the bladder, which I am about to do on the person of an ex-army officer, a private patient, who, for the conveniences furnished by our comfortable ward, will remain in the hospital until his cure is complete. When the gentleman is brought into the room, you will appreciate that we have to deal with a condition which surrounds a major operation with complications, and, necessarily, with anxieties. The health of the person is in that state where *bad* is daily progressing towards *worse*, and where *worse* threatens to extend quickly into the superlative of the adjectival expression. The case is an instructive one,—instructive in many respects. The patient has been a sufferer for many years. He has been a trier of many remedies and of many doctors. Bougies innumerable have been passed into him, inflicting suffering which is to be appreciated only by the man who has knowledge in his own person of the relations between steel and an irritable urethra. Diagnosis has traversed in the case all ground intervening between stricture and Bright's disease. Hope and despair have alternated from zenith to nadir. In short, the poor fellow has been travelling a hard road.

The trouble of the case is stone in the bladder. To tell whether or not a man has stone is to sound him. Strike a stone with a piece of steel, and you get a click. I have had in my patient's bladder a bougie, and I have got in response the click. Having the click, I have the diagnosis.

Having a diagnosis is not having the stone. It is, however, having directions as to a required course of procedure. Before I leave this room I shall have the stone, because I know myself able to take advantage of the directions. Surgery, by the way, gentlemen, is all in this. A man is to know what is to be done, and is to know how to do what is to be done.

Getting a stone is commonly the working out of a problem : stones differ ; individuals differ ; circumstances differ. Each case, to be successfully treated, is to be esteemed as possessed of a law and a rule pertaining strictly to itself. Certainly, as the present one is concerned, law and rule are aphoristic.

Stones are to be removed from a bladder after a variety of manners. These manners come under the two common heads of lithotomy and lithotripsy. The common heads embrace many varieties. The election of a variety is the test for experience and judgment on the part of an operator.

The gentleman to be treated this morning suffers after other manners, under accidents incident to his profession. He has been run through the chest by a spear. He has a perverted perineum, the result of having been suddenly and forcibly thrown forward against the pommel of a Mexican saddle. He has a urethra strictured from beginning to end as the result of this accident, and withal so acutely sensitive that did I attempt to pass a bougie of even moderate dimensions, outside of the narcotic condition, I should not unlikely make you witnesses of a clinical convulsion. Besides a strictured and irritable urethra, the bladder is in a state of upside-downness that misleads as though it had resolved itself into an *ignis-fatuus*. To-day the urine is clear and natural, to-morrow it is bloody ; next day it shows renal casts and analyzes albumen. Yesterday the patient was in bed, looking not unlike a laid-out corpse. You will see him in a few minutes, resembling somewhat the proverbial walking ghost. He is a Banquo's spirit, having no rest day or night. He is a kind of Hamlet's father seeking his lost ease.

What is an inference in the case ? Certainly when a man is not in a state of ease his condition is that of dis-ease. The little prefix means in our patient's case a stone. Without the stone no *dis* would exist. To get away the stone is to change disease to ease, is to replace irritability by tranquillity, is to restore comfort by heading off misery. We must get the stone. How shall we get it ?

Assuredly, the "how" is to relate with the easiest means possible. To operate here bunglingly or inadvisedly would certainly be to provoke a funeral. The patient is able to stand little more than is a baby just born. Lithotripsy, or crushing,

suggests itself in way of solution to the question. I have here upon the table a number of instruments employed in such manner of operation, known as lithotrites. Every one of these has, as you see, an objectionable diameter,—objectionable as the case now to be treated is concerned. I, nor any other surgeon, could judiciously pass the smallest of these through the urethra of our patient. Again, admitting a difference of opinion as to forcing, how might the bladder be satisfactorily washed ? Here are canulæ, quite a number of them : a proper-sized canula could no more readily be forced through the man's urinary passage than could a camel be jammed through the eye of a needle. Again, let us accept the stone to be hard, can a surgeon crush a hard body by means of a something weaker than itself ? What assurance can a surgeon have that in the performance of lithotripsy he shall not leave some jagged particles which multiply the original source of offence ? Lithotripsy has its province confined to soft stones and big urethras. It is entirely without application in the case we consider. Nothing more is to be risked in the way of irritability. From a study made of the condition, I am entirely satisfied that surgery must annihilate irritability, or irritability will annihilate the patient. Judgment would be far at sea in adopting the ordinary operation of lithotripsy in the case to be brought before you.

Next comes the use of solvents. Here, besides that I have never known a stone to be dissolved, time would step in as a factor to the patient's destruction : old age, if not the calculus, would kill him, depending on these. Choice of means, then, is to be found among the manners of lithotomy. Of these manners we are to select between what are known as the lateral, the bilateral, the median, the rectovesical, and the supra-pubic. To select is to possess appreciation of requirements. For removal of a big stone, there is certainly no operation equal to that known as the lateral : it is quickly performed, it allows room, and, if the incisions be properly made, there is little danger from either hemorrhage or urinary infiltration. A supra-pubic manipulation risks too much in the way of peritonitis. The rectovesical is dirty and bungling. The bilateral is a complication to be indulged in only when nothing better is to be done.

The operation I decide to do is the

median. Some of you, experienced in these matters, hint at the possibility of a large stone. Truly a large stone stands as an objection in such way of operation. Not, however, is it an insurmountable objection. A median hole in the perineum antagonizes a small urethra and invites the lithotrite. Finding a big stone, I could, under the circumstances of a median lithotomy, crush, cut, or bore it as easily as with a nut-cracker I could manipulate an almond-shell at the dinner-table. I have, however, to direct attention to the fact that examinations made have yielded measurements of a small stone. That settles the question.

Median lithotomy means entering the bladder from the perineal raphé. It is a delicate performance, and should be attempted by him only who knows just what he is about. To accomplish the indications, the surgeon proceeds as will now be shown.

[The patient being here introduced and laid upon the operating-table, ether was administered, unaccompanied by any sign of either physical or mental disturbance: in three minutes anæsthesia was complete.

The operator now passed a sound with a view of having his diagnosis confirmed by physicians present. This being withdrawn, a catheter was entered, through means of which three ounces of tepid water were thrown into the viscus. Next the lithotomy position was secured, the palms being held in relation with the feet by assistants. The inclination forward of the trunk was at about an angle of fifteen degrees. Following this was the application of the staff, and the hooking of it close to the arch of the pubes.]

"I now," said the operator, "proceed to the vital step of the performance. First I introduce the index finger of the left hand into the rectum, passing it upward until the tip is in contact both with staff and prostate gland. If the gentlemen looking on will note the line of the staff where, along with the urethra, it enters the perineum, and, further, the position of the finger as it is lost in the anus, the triangular aspect of a space in which the knife is to work will not fail to be appreciated. The apex of this triangle is the point at which the membranous portion of the urethra loses itself in the prostate. The base of the triangle is the perineal raphé.

"To carry a doubled-edged scalpel from the base to the apex of this triangular space, and to strike, at the depth required, in a single plunge, the groove of the staff, demands not only anatomical knowledge, but as well a reasonable amount of manipulative skill. I here enter the knife eight lines above the superior edge of the rectal outlet, and I thrust it directly forward. I feel that, happily, I have struck the groove. Assured of a proper relation of blade and staff, I carry the instrument still onward, until I feel, as at the present moment, a something offering resistance. This something I know to be the prostate body. With a lateralized motion of the blade I nick this gland. Now the knife is withdrawn, but not the staff. I take next the finger from the rectum, where it served the double purpose of shielding that tube from the possibility of accident and marking the position of the staff, and I introduce it into the wound, which, as was observed, I made large externally as I withdrew the scalpel. The meaning of the finger is that of expander or borer. Little by little I compel the body to admit the finger into and through it. As I work forward, I am impressed with the hardness of the gland. This hardness is not uncommon to the age before us. Here is a blunt-pointed bistoury. I pass this slidingly along the digit, and, having now the extremity in the bladder, I turn the blade and enlarge the nick. . . . This has done the business: already my finger has reached the bladder, and, what is most satisfactory, it is in contact with the stone.

"Before taking up the forceps, I beg to offer a hint worthy of being inscribed in every memory and upon the pages of all note-books. When introducing the finger, let the operator be sure that he passes it between the roof of the urethral canal and the concave of the staff. This manipulation leads certainly into the bladder, and can lead nowhere else. On the contrary, pass the finger between the bottom of the wound and the convex of the staff, and the farther you push the farther away, not unlikely, will the finger get from where it is needed. The surgeon will find, on a post-mortem, that it has made a cul-de-sac in the vesico-rectal septum.

"Here are stone-forceps, several pairs. I select this delicate instrument, and carry it into the bladder by directing it along

the finger. I am now feeling for the foreign body. . . . I have it. The handles, you see, will not come together. Now I make gentle traction. Haste would be bad surgery. Little by little I feel the prostate yielding. . . . Here is the stone in my hand."

NOTE.—Analysis, made by L. Wolff, M.D. Weight, 10 grains, 66 centigrammes (about 3ij ℥ij). It was found to consist of calcium oxalate, principally; with protein substances, ammonio-magnesium phosphate, and ammonium urate.

The surface of the stone is rough, being like coarse sand-paper: its size is that of half a walnut flattened. It is formed of concentric layers.

History of Results.—The patient did not recover consciousness until some half an hour after being laid in bed, when he expressed himself as being wholly without knowledge of any operation having been done. Two hours later, excessive pain came on, for the relief of which half a grain of morphia was administered hypodermically. During the evening, entire ease having supervened, part of a banana was eaten; this, unfortunately, rapidly fermented, producing, along with great abdominal distention, severe colicky symptoms. As a short road out of this complication, there was given a teaspoonful of compound tincture of capsicum, combined with half an ounce of castor oil. As a result, eructation of wind, together with a free movement of the bowels, quickly followed, affording the desired cure. At twelve o'clock a second hypodermic of half a grain of morphia, combined this time with the one-hundredth of a grain of atropia, was injected. The night was passed comfortably.

Sunday.—An easy day: patient seeing his friends with freedom and comfort. Urine dribbling through wound.

Monday.—Patient in every way comfortable; turning about in the bed to suit his convenience, no restraint being laid on him in such direction. Diet of steak, toast, and coffee.

Tuesday.—Control of the sphincter vesicæ recovered. Patient feeling so entirely free of pain as to express surprise that he could not be permitted to dress himself and walk about. Diet the same.

Wednesday.—Complains that the urine burns the track of the wound; burning continues from five to ten minutes after

the passage. Medicines, acetate of potash and gum-acacia solutions. Diet the same.

Thursday and Friday.—Urine still irritates; chink of nates kept well covered with zinc ointment. Patient expresses himself as never having felt better, in a general way, during his life. Coffee changed for chocolate; eggs added to diet; wine-jelly as dessert.

Saturday.—Urine passed entirely through urethra. No inflammation. Wound rapidly closing after the manner of first intention. From this date to the following Thursday the progress of the case was continuous, the patient dressing himself on the last-named day and walking about the ward and neighboring rooms. On the Thursday of the succeeding week he left the hospital, returning to his usual routine of life. The healing of the wound has been without a single drop of pus; it was absolutely by first intention.

CARDIAC COMPLICATIONS IN RHEUMATISM UNINFLUENCED BY SALICYL COMPOUNDS.—Dr. T. Gilbert Smith (in the *Lancet*, January 28, 1882) makes a careful statistical inquiry into the action of the salicyl compounds in acute rheumatism, and acknowledges their efficiency in reducing temperature, subduing pain, and ameliorating or preventing arthritic inflammation, but concludes that "there is no evidence, so far as hospital statistics are concerned, to show that the introduction of the salicylate treatment has led to any diminution in the amount of cardiac complications in acute rheumatism." In fact, out of 533 cases treated by the salicyl compounds alone, 68.4 per cent. of cardiac complications occurred. In 1727 cases occurring in the pre-salicylic era of the therapeutics of acute rheumatism, the proportion of heart-troubles was only from 54 to 56 per cent.

DEATH FROM MERCURIAL INJUNCTION.—The following interesting case is reported by Dr. Lowe in the *British Medical Journal* for February 11, 1882: A woman of 35 years, of dissolute habits, being troubled with pediculi capitis, obtained some mercurial ointment from a druggist, and applied it to the scalp. As it was allowed to remain, several days later she presented symptoms of marked mercurial erethism, tremor, cough, gasping respiration, salivation, vomiting, diarrhoea, foetor of breath, general prostration, scanty and albuminous urine, finally terminating in death in about one week from the beginning of the symptoms. She did not receive proper medical treatment until too late to save her life.

TRAUMATIC TETANUS.—In the *London Lancet* of March 25 is reported a case successfully treated by nitrite of amyl.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, APRIL 22, 1882.

EDITORIAL.

NEW RESEARCHES ON DIPH-
THERIA.

MOST of our readers are familiar with the results obtained by Drs. Wood and Formad in the research upon diphtheria recently made by them under the auspices of the National Board of Health. This spring the work has been resumed, and with sufficient success to make a note of the achievement proper. A number of experiments were made upon the effect of boiling the membrane, and it was found that if the heat were maintained for only four or five minutes the contagious power was not always destroyed, but that when the boiling was continued for fifteen minutes, or longer, inoculation with the virus always failed to produce any local or general effects. Culture experiments with this innocuous virus showed that the boiling had killed the micrococci, which entirely refused to grow. It is scarcely necessary to point out the confirmation this lends to the belief that the micrococci are the *ma-teries morbi*. It is another instance of the close connection between the vitality of the plant and the virulence of the poison.

A number of cultures were also made and inoculations with the liquid practised. In six or eight instances the second, third, or fifth generation of cultured plants caused the death of the rabbit. In all these fatal cases micrococci were abundant in the blood and internal organs. In some animals the local exudations were marked, and resembled those of diphtheria, but in other rabbits the local symptoms were only slight swelling and infiltration of the surrounding tissues with serous liquid containing an abundance of micrococci.

These inoculative experiments, taken with those hitherto reported, are now in sufficient number to be worthy of credence. And it is very difficult to explain them upon other grounds than that the plants are the poison of diphtheria.

The membrane with which these experiments were made was obtained by Dr. Formad in the neighborhood of Lakeview, Michigan, in which State epidemic diphtheria seems to find its especial home. The cases were not so violent, nor the contagion so marked, as in the Ludington plague, and the culture studies clearly showed that the growth-power of the micrococci was correspondingly feeble.

A very important and curious observation was made by Dr. Formad at the spot of the epidemic. The pigs of a family living in an isolated position in the forest were fed with slops from a room where three or four children were sick with the disease. Several of the pigs sickened and one died. At the autopsy made by Dr. Formad, the larynx and respiratory passages were found entirely free from disease, whilst the lower end of the œsophagus, the stomach, and the upper duodenum were coated with a very thick false membrane loaded with micrococci and containing the other anatomical elements of true diphtheritic membrane. Underneath this false membrane the mucous membrane was inflamed, and in numerous places ulcerated. In the blood of the pig, as well as in the spleen and the bone-marrow, the micrococci were exceedingly numerous. They were seen attacking the leucocytes, and in all other particulars conforming with the action of the plant in malignant human diphtheria. Inoculation of rabbits with the membrane from the stomach of the pig produced sickness and death, with symptoms and local and general lesions similar to those caused by the human membrane. This observation is very important as showing the local nature of diphtheria in its first

onset, and, especially, as raising the suspicion that the swine-plague of the West has close relations with human diphtheria.

NIGHT MEDICAL SERVICE.

FROM the reports that have been received, the practical working of the system of night medical service appears to have proved very satisfactory in Paris and other large European cities in which it has been established during the past few years. In this plan the city is divided up into districts, and in each district a number of competent physicians are registered, who are willing to attend night calls. The registry is in the hands of the police authorities; and when cases of accident or emergency occur, the calls are sent in regular rotation to the names on the physicians' list. In return for such service, the city guarantees a fixed fee to the attendant, which, if the patient be unable to pay, the physician will receive from a municipal appropriation for the purpose. By adopting this system, advantage results both to the public and to the medical profession: on the one hand the proverbial difficulty of getting a physician at night is at once obviated; on the other, the troublesome night-calls—the traditional bugbear of the practice of medicine—are reduced to a minimum. Should a physician under such circumstances receive a call from a stranger or an irresponsible person, he can acquit himself of all responsibility and oblige the applicant by directing him to inquire at the nearest police-station. At present the doctor not rarely finds himself in a dilemma. He has either to render himself liable to a charge of inhumanity by refusing to respond to the urgent call, or, if he go, he knows that he may be guilty of injustice and inhumanity to himself; for too often is he robbed of his much-needed rest only to be further robbed of his well-earned fee.

About two years ago, Dr. Henri Nachtel, of Paris, who had been much interested in

establishing the night medical service in the capitals of Europe, visited this country, and presented the subject before the Academy of Medicine in New York and our Philadelphia County Medical Society. New York physicians were quick to see its advantages: a bill was promptly framed, which became a law by the Governor's signature in June, 1880, and has been in successful operation for nearly two years. In Philadelphia the matter was quietly referred to the Committee on Hygiene and the Relations of the Profession to the Public, which still has it under consideration.

During the first year in New York, five hundred calls were answered, and this number will probably be largely increased during the present year. The amount of relief to medical men which this represents can scarcely be estimated. Will not our County Medical Society bestir itself in this matter for the benefit of the profession, so that Philadelphia may equally profit by a much-needed night medical service?

NO ONE TO BLAME; OR, CROWN-ER'S-QUEST LAW.

THE daily papers of the 5th instant contained the following suggestive item:

"Joseph Yorkstone, colored, 35 years old, on Wednesday night fell down a stair-way and fractured his skull in three places. He was found insensible the next morning by a policeman, and taken to the station-house and thrust into a cell, on the supposition that he was in a drunken stupor, this logical conclusion being reached because he had been seen intoxicated several times previously. On Friday, as the prisoner still was unconscious, a physician was sent for, who made a casual inspection and said there were symptoms of narcotic poisoning. Yorkstone died on Saturday at his home. The post-mortem examination revealed the fact that, instead of being a drunken stupor, Yorkstone's insensibility was caused by compression of the brain, due to the depressed fracture of the skull. It was so reported at the inquest yesterday. The jury did not censure the police in their verdict of accidental death by a fall."

Possibly an efficient night medical service might have saved this man's life; it would at least have saved us the disgrace of keeping a dying man in a station-house, when there are a thousand empty hospital beds in the city ready to receive him.

PHILADELPHIA COUNTY MEDICAL SOCIETY AND THE WOMEN QUESTION.

IT will be remembered that at a recent meeting of the County Society it was decided that women are eligible for membership, "under the same rules and restrictions now governing the admission of men;" but, having conceded this much, it appears not quite ready to follow the example of the New York County Society and American Medical Association by at once admitting women to full membership. At the last meeting, held April 5, five ladies were proposed, whose professional standing was vouched for by the Board of Censors; but they failed to receive sufficient ballots for election. The County Societies being constituents of the American Medical Association, it would seem that there can be no question about the eligibility of all practising physicians in good standing for membership.

PROCEEDINGS OF SOCIETIES.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held April 6, 1882, Dr. FORDYCE BARKER, President, in the chair.

The scientific paper of the evening was read by Dr. FESSENDEN N. OTIS, and was entitled "*Case of Persistently Recurring Spasm of the Bladder resulting in Thickening of its Walls, Dilatation of the Ureters, and Hydronephrosis—Death from Uremia—Pathological Specimen.*"

The author prefaced the history of the case and his remarks thereon by relating some cases of encysted vesical calculus extremely difficult of positive diagnosis, by reference to other authors, etc.

The case referred to in the title of the paper was of a man 55 years of age, who had suffered constantly for more than twenty years with difficult, frequent, and painful urination. The trouble, the patient stated, began with a gonorrhœa, which ended in chronic urethritis of long duration, the bladder finally becoming affected. He took various internal remedies, and was also treated for stricture. Stone was finally suspected, but not discovered. He passed through the hands of various physicians and surgeons, many of them the most eminent in this city and in Europe, and, failing of relief, went the rounds of the regulars,

irregulars, spiritualists, etc. The only relief which he obtained, and which was merely partial, was from the occasional introduction of a sound, No. 25, which passed readily into the bladder. Pain in the region of the right kidney had led to the suspicion that there might be a calculus in the pelvis of that organ.

Dr. Otis saw him in December, 1881. He was feeble, emaciated, tremulous, and had recently suffered from chills, followed by fever and sweating. Intense pain which occurred on urination was referred chiefly to the neck of the bladder. The urine was more or less purulent, and was passed every fifteen minutes, but contained nothing to indicate organic disease of the bladder or kidney. One or two attacks of pain had occurred on the left side, and were thought to be due to renal colic; but no tenderness could be detected in that region.

The urethra measured 37, but there was a contraction nearly an inch from the orifice to 25; and, Dr. Otis having seen cases of long standing presenting similar symptoms to this relieved by division of contracture of the urethra at this point, he divided the orifice to correspond with the urethra behind it. A No. 37 instrument then passed into the bladder, of its own weight, showing that no stricture existed behind. The patient was entirely free from pain for four days after the operation, but there was complete incontinence of urine. At that time he began to have some control over the passage of his urine. Later in the day there was slight pain, which increased as the control over the urine increased, but not to the degree that had existed before the operation. Suddenly, and for the first time, he complained, on the fifth day, of pain in the head of the penis, followed immediately by a series of spasms similar to those from which he had previously suffered, and occurring at intervals of ten or fifteen minutes. Two days later, symptoms of uræmia developed, and on the fourth day after the occurrence of the pain attributed to the sudden appearance of stone in the bladder, he died in a state of coma.

Dr. WILLIAM H. WELCH made the autopsy, and furnished the following report:

"By request, only the abdominal organs were examined.

"*Kidneys.*—Both kidneys are enlarged. The fibrous capsule is adherent to the surface of the organs. The cortical substance presents a grayish, nearly uniform appearance, with little trace of the normal markings. The pyramids are in great part encroached upon by the dilated calyces. No abscesses are present in the kidneys. The pelvis and calyces of each kidney are greatly dilated, and contain turbid ammoniacal urine. The ureters are likewise dilated, so that their calibre equals nearly that of the small intestine. The walls of the ureters are thickened. No obstruction to the passage of urine exists, either in the pelves of the kidneys or in the ureters.

"*Bladder*.—The wall of the bladder is thickened to about four times its normal size. The thickening affects all of the coats of the bladder, but especially the muscular tissue. The mucous membrane of the bladder is thickened, and presents in many places, especially about the base, slightly elevated, grayish, discolored patches, such as are seen in so-called diphtheritic cystitis. The capacity of the bladder is about that of the normal organ. Its contents are ammoniacal urine and a small calculus. This calculus is about an inch in length and conical in shape, resembling somewhat a canine tooth. Such a calculus might have been formed in one of the dilated renal calyces. The calculus is apparently of recent formation, being very friable, and composed wholly of phosphates, without a nucleus of uric acid or oxalate of lime, as shown by chemical examination.

"*Urethra and Prostate*.—The prostate is of about the normal size, and had not occasioned any obstruction, so far as could be detected. The calibre of the urethra seemed to be normal, presenting no evidence of stricture.

"The spleen is somewhat enlarged, and surrounded by firm fibrous adhesions. The liver, stomach, and intestines present no noticeable change. The microscopical examination of the kidney showed a marked new growth of fibrillated connective tissue which is infiltrated with lymphoid cells. The uriniferous tubes are in places compressed and atrophied, in places dilated, in places filled with fatty epithelium.

"*Diagnosis*.—Chronic cystitis, with dilatation of the ureters. Hydronephrosis and chronic interstitial nephritis. The cause of the cystitis is not apparent."

In the absence of obstruction of any kind, or of other cause, to account for the thickened bladder, the dilated ureters, and the hydronephrosis, Dr. Otis thought it quite possible that all the difficulty had been produced by spasm reflected from irritation at a distant part. This view was substantiated by the fact that for a time his symptoms disappeared on division of the narrowed urethra near the orifice, and returned only after the passage of the stone from the kidney into the bladder, as was evident from the post-mortem examination. He believed that had this probable cause of his trouble, constriction near the orifice, been recognized earlier in the course of the disease, before such serious changes had taken place in the bladder, ureters, and kidneys, and proper measures adopted for its relief, the patient might have recovered, and enjoyed a life of health and happiness instead of one of years of extreme suffering, terminating finally in death.

DISCUSSION.

Being called upon by the President to open the discussion, Dr. ALFRED C. POST said he had not come expecting to make any remarks, but he would say that, for his own part, he

had been very well satisfied that in a number of cases of urethral and vesical irritation a contracted state of the meatus urinarius had been one very important element in maintaining the irritation which existed. He thought that was often the case in senile enlargement of the prostate. There were many instances in which we found great difficulty in introducing instruments for the purpose of evacuating the bladder, and he had known some instances in which this difficulty of catheterism was obviated by dividing the meatus. A striking case of that kind he saw in consultation with the former President of the Academy a year or two ago. A member of the legal profession, about 60 years of age, had suffered for a considerable time with urinary difficulty in connection with an enlarged prostate, and it had been necessary to evacuate the bladder with a catheter. But, in consequence of the small size of the meatus, a catheter of only very moderate size could be introduced, and, as is well known, the introduction of small catheters in enlarged prostate is usually much more difficult than the introduction of large ones. The small one did not push its way over the enlarged prostate as easily as did the large one. In this case the physician in attendance introduced the small instrument up to a certain point, beyond which it would not pass. When Dr. Post saw the patient, he enlarged the meatus, and introduced the large catheter on into the bladder, giving the patient relief. The orifice was dilated by the introduction of large steel sounds, and in the course of a few days the patient was able to dispense with the catheter, and had not used it now for over a year, while before that he used it regularly.

A young man was sent to him from Massachusetts two or three weeks ago, having a close stricture of the urethra. The contraction was such that he passed his urine only by drops, and with a great deal of distress. Dr. Post was unable at the time to introduce any instrument into the bladder. He etherized the patient, enlarged the orifice by making a slight incision before and behind, and then passed successively a series of sounds from fifteen millimetres up to thirty. These instruments were passed at intervals of two or three days for a week or two, and the patient then went home entirely relieved of the difficulty from which he had been suffering.

Dr. Post mentioned these cases as a portion of a series of cases in which a contracted state of the meatus had seemed to him to be a very important element in interfering with catheterism and in maintaining severe irritation in the urethra and bladder.

Dr. E. L. KEYES thought the whole gist of the discussion necessarily turned upon the question of etiology. With regard to this he would have to beg to differ from Dr. Otis. It seemed to him that the spasm of the urethra, which undoubtedly existed, was due

to reflex causes, and the relief of that spasm was produced mainly by the direct influence which the instrument passed had upon the deep urethra,—upon the sensibility of the deep urethra in the first place, and by acting mechanically upon the contracting muscles in the second place. The size of the instrument was particularly important from the second point of view, just as overstretching of any tonically-contracted muscle naturally would put it more in a state of ease, perhaps entirely overcoming its condition of spasm. Many cases certainly did have symptoms of stricture, symptoms of stone, and symptoms of a great many other things persistently, but which turned out to be simply cases of spasm of the urethra. Among these cases was that of an old sea-captain, who recently came under his observation, but who was now absolutely relieved, whose urination, etc., was now perfectly normal, and yet nothing had been done for him whatever except to pass a large sound, as large as the urethra would admit, about half a dozen times. Many cases got well of spasmodic stricture by the passage of a larger or smaller sized sound, and without giving ether; but some cases, again, certainly did not get well on passing a sound as large as the urethra would admit, which recovered when these points of narrowing were razed and the larger instrument was passed into the deeper urethra, the recovery being due not to the division of the narrowed part, but to the influence of the larger instrument upon the canal below. Still, it was true also that recovery sometimes failed to take place even after the passage of a large instrument, although there was no lesion to account for the symptoms, the mucous membrane not being inflamed. A case of this kind occurred in a patient who was at his office this morning. He was from a New England State, in blooming health, but he was afflicted with permanent and frequently-recurring spasm of the deep muscles of the urethra, etc., to such an extent that he had had prolonged retention of urine. The urine was absolutely negative as to indications of disease. His malady came on shortly after the death of his wife. There was no inflammatory or other pathological condition known which would account for his symptoms. He was subjected to a number of ordinary forms of treatment; and, finally, after instruments had been used without the least amount of relief, and after having suffered for two or three years, about a year ago the slight anterior narrowings were divided. A large sound was passed into the urethra, and that canal was brought up fully to its alleged natural calibre, but not a particle of benefit followed in urination, and the patient came to him to-day to ask if anything further could possibly be done. He was now able to pass his water only under the greatest privacy, away from any mentally-disturbing con-

ditions. A 35 or 36 instrument would pass into his bladder without giving him any discomfort. So far as was known, the mucous membrane of his bladder was in a perfectly normal condition. With regard to the case the subject for discussion, he thought the true explanation of it was the most simple one that suggested itself. The man had arrived at a certain age in life when he contracted a gonorrhœa, which was the beginning of his trouble. For some time afterwards, however, he had no troubles from which he suffered later. Then there arises, as a result of the gonorrhœa, spasm, and at the same time, or following this, cystitis; the patient has difficulty in expulsion of the urine. Then he has calculous attacks, probably a number of them. These calculi might have been the occasion of further spasm about the bladder, for he had seen a number of cases of that nature, and indeed they were quite common. Then there was stone in the kidney, and the other lesions resulting as pointed out in the history. In this case there was more or less pus in the urine. It often occurred, however, that where difficulty of urination arose from spasm, aside from any known lesion, as a gonorrhœa, etc., no pus was to be found in the urine at any time, as was illustrated in the patient from New England. In Dr. Otis's case, the recurring spasms he considered sufficient to account for the thickening of the walls of the bladder; the attempt to get rid of the irritation about the neck of the bladder might easily lead to hypertrophy of the walls of that viscus. Then, on division of the contraction near the orifice of the urethra, which allowed of the easy passage of stone, irritation being removed, the spasmodic contraction of the deep urethra was for a time relieved and yielded to temporary incontinence. The larger stone afterwards exciting a new spasmodic contraction, incontinence ceased; the other symptoms, uræmia, etc., developed, ending in death.

Dr. J. W. S. GOULEY said he thought one of the corresponding members of the Academy—Mercier—a few years ago very graphically described the class of cases to which Dr. Otis's belonged, and the description was a very simple one. He said these troubles originated in very persistent chronic urethritis, or rather cervical cystitis following urethritis,—cervical cystitis which gave rise to intense congestion of the capillaries and small vessels underlying the mucous membrane, thus exciting what he called contracture of the urethro-vesical orifice. There were two states,—a spasmodic contracture and a permanent contracture. The spasmodic contracture followed chronic urethritis, and was a curable ailment; the permanent contracture, if left to itself, was incurable. Permanent contracture he called a muscular valvule, causing an impediment to urination similar to that which would be caused by hypertrophy

of the median portion of the prostate, and this impeding to urination caused the bladder to contract spasmodically to expel the residual urine which was almost always found in these cases not long after the disease had become permanent; and these contractions, these wrestlings of the bladder against the obstacle at the urethro-vesical orifice, cause hypertrophy of its muscular coat; the residual urine stagnates, decomposes, and causes cystitis; the inflammation extends up the ureters and to the pelves of the kidneys, and the patient dies after a certain number of years of pyelonephritis, or with acute interstitial nephritis superimposed upon a subacute or chronic condition. A patient might have a permanent contracture of the urethro-vesical orifice for a great many years without suffering more than the inconvenience caused by the stagnation of the urine. Of course the stagnation of the urine, a foreign body in the bladder, would give rise to spasmodic contractions; but that the bladder might contract spasmodically without an irritant within it, or an obstacle at the urethro-vesical orifice, he could not conceive. He could not conceive that spasms of the urethra would cause habitual retention of the urine. In all or nearly all such cases as had been described by Dr. Otis the obstacle was at the urethro-vesical orifice. A very interesting point connected with this was, that it was not easy at the post-mortem examination to discover the urethro-vesical valve, and the bladder should be examined with the greatest care not to overlook it. It should be examined from above, and not first slit along its anterior border and the prostatic urethra. Dr. Gouley had made some modifications of the rectangular sound by which an absolute diagnosis could be made of both the muscular valve and the prostatic valve.

He had now a young gentleman, about 30 years of age, who, like Dr. Otis's patient, had a urethritis a number of years ago, and which still exists. That gentleman had for five or six years been unable to empty his bladder, and for a year before he saw him he was urinating every few minutes. The urine was purulent, and he had used no catheter or instrument of any kind to empty his bladder. He asked him to urinate, and he passed an ounce or two of slightly purulent urine. He then introduced a catheter and drew off eleven ounces of urine, the last of which was very purulent. Since then he had been introducing the catheter two or three times a day, and his bladder was now better, but he was not well, and he would not be well until the right thing was done. He thought this was the solution of this class of cases, and he would refer the gentlemen who were interested in the subject to the work of Mercier, who had written nearly a volume on the subject. Dr. Gouley said that, for one, he was convinced of the truth of what that author stated, and he had had a

number of cases extending over some years bearing him out in his conviction.

The case of encysted calculi referred to by Dr. Otis suggested some that had occurred in his practice, although they were not common. Last week he removed such a calculus with considerable difficulty from a gentleman 69 years of age. Since the operation the patient was doing well, but he did not believe he would entirely recover, for the reason that he had not before been able to empty his bladder, due to a cystitis causing contracture of the urethro-vesical orifice. The urine, as he was unable to empty his bladder, had in all probability been dammed back in the ureters, and his kidneys doubtless were damaged.

Dr. FRANK H. HAMILTON said that he usually found Dr. Otis more right than wrong in his views which had excited a difference of opinion in the profession concerning them, and he was convinced that he had this evening given us a great deal of light on this subject of reflex irritation caused by malformations of any sort at the meatus. He was reminded by Dr. Flint of a case which came under their mutual observation some years ago at the Fifth Avenue Hotel. The gentleman was suffering from symptoms of uræmia, and died. Before death Dr. Hamilton drew off a considerable quantity of urine with a large catheter, for he never carried any other. There was, therefore, no very marked stricture. They noticed that there was rather a small meatus, as they had some difficulty in introducing the catheter. The autopsy showed that the patient had hydronephrosis, and other related affections consequent upon the long-continued disturbance. Whether it was due to occlusion or partial occlusion of the meatus, was a question which now first opened itself up to him. They did not think of it at the time as being a possible cause of his trouble, and they therefore made no attempt at relieving it. He could not accept the possible explanation suggested by Dr. Keyes, that the trouble in Dr. Otis's case began in the kidneys. It was a rule pretty well established that inflammatory actions here progressed in the opposite direction,—namely, from the meatus upward, very seldom from the kidneys downward; and, as this patient suffered from thickening of the walls of the bladder, he would not ascribe this to pre-existing chronic inflammation of the kidneys. [Dr. KEYES explained that he did not mean to say the bladder difficulty was first caused by inflammation in the kidney, but that after calculi had passed from the latter organs it might then have had something to do with the further vesical affection.]

On the other hand, said Dr. HAMILTON, that narrowing of the orifice did not always cause spasm in the bladder and chronic cystitis, with thickening of the coats of the viscus, was illustrated by a pretty large number of cases in the experience of every surgeon. He met

with cases of congenital phimosis in which there was almost constant narrowing of the meatus, or cases of narrowing of the meatus without phimosis; and yet at no time during life did the subject suffer from any spasmodic disturbance, or from any irritation of the bladder whatever.

A case in point was that of a gentleman at least 50 years of age, who consulted him last week, who had congenital phimosis with almost complete occlusion of the meatus urinarius. It was so small that he would not attempt to introduce an instrument larger than an ordinary probe. Just within there were about fifteen calculi which had formed at that point within the past fifteen or twenty years. During all this time he had no trouble about the bladder or the neck of that organ. While, therefore, some cases of spasm of the bladder and difficulty of urination doubtless were due to narrowing of the orifice of the urethra, there certainly were cases where the latter deformity existed without producing the other symptoms; and he doubted whether the symptoms referred to were so frequently to be accounted for in the condition of the meatus as the author of the paper would have us infer.

Dr. OTIS, in closing the discussion, mentioned the case of a young man who suffered from irritation, apparently at the neck of the bladder, and who had been for a considerable time passing his urine every ten or fifteen minutes. He had never suffered from any acute inflammatory trouble. Dr. Otis found a narrow orifice, and divided it, and for three days afterwards he was obliged to introduce the catheter in order to draw off the urine. At the end of that time he urinated voluntarily at normal intervals (every five or six hours). He continued well for a considerable length of time, when again his trouble came on; and when he returned, recontraction was found to have taken place. When this was divided, he was relieved a second time, but this time without the amount of retention that had taken place before. He was not at all certain that the relief, in a very considerable majority of cases where the trouble was associated with contracture of the meatus, was not due, as Dr. Keyes had suggested, to the passage of the instrument through the urethra into the bladder. He had been of opinion that in many of these cases this passage of the sound was essential to the production of relief; but he was equally confident, and more confident, that the independent influence of the condition at the meatus was sufficient to produce very marked trouble at the neck of the bladder. However, he would not be disposed to quarrel with any one as to the *modus operandi* by which relief was obtained in these cases, but would simply say that in the graver ones that had gone on for so long a time without being able to obtain relief, it was worth while to try the experiment—empirically, if

you please—of making the meatus correspond to the normal size of the urethra, which was easily ascertained, and then pass the sound. He was satisfied that in a considerable number of cases life would be saved in this way. If that was true, then, he thought, we could afford to adopt the procedure and wait for the exact explanation of it, if indeed we should ever discover this.

Dr. Hamilton, he said, had suggested that there were many cases of contraction of the meatus in which nevertheless there was no trouble. This was true, for the majority of the human race had a contracted meatus as compared with the size of the canal back of it; but a great many did so suffer, and he had been able to ascertain that, as a rule, in cases where trouble arose, there had been some debilitating influence, such, for instance, as sexual excess. He had observed the occurrence of reflex disturbance particularly in those who had had gonorrhœa; and as many of these had a deposit of cicatricial tissue, it occurred to him that it was not impossible this cicatricial deposit had entangled some of the terminal nerve-corpuscles about the glans penis in such a way as to produce something like tetanic influence. For this reason he considered his explanation of the symptoms as the more probable one. Division of the constricted part gave not only relief from the reflex symptoms referable directly to the urinary passages, but also relief mentally from a condition bordering on melancholia.

The Academy then adjourned.

SOCIETY FOR MEDICAL IMPROVEMENT, BOSTON.

March 13, 1882.

TOPIC FOR DISCUSSION, "TREATMENT OF ACUTE LUNG AFFECTIONS."

DR. JOHN G. BLAKE said that the variety in acute lung affections calls for equal variety in treatment, in order that it may be efficient and meet the pathological conditions. It demands special consideration in each case, and forbids routine. Early manifestations and complications of a disease materially differ in many cases,—more so than symptoms of later stages. Prompt recognition of them will assist in modifying or averting danger. Comparison of notes and mutual experience will teach which measures of those adopted in emergencies are best. The older physicians are men of few remedies. They do not easily adopt new ones. By elimination they have discovered the best of each class, and use only those which time and experience have proved to be the most reliable in obtaining the result desired.

Pneumonia, the most frequent of acute lung diseases, and the most dreaded by the laity, offers a theme for careful consideration. Attacking all ages and conditions, it sometimes

affords opportunities for prompt action. *Venesection*—so much abused and decried—is still reckoned among seniors one of the reliable aids they are unwilling to discard simply because, from unavoidable causes, it has become unfashionable. That a procedure which was so helpful to our predecessors, and which we are forced to admit is so beneficial in proper cases, should have become nearly obsolete, is hard to reconcile with common sense. Venesection might be classed among the lost arts. It is doubtful whether more than a dozen of those present have other than a theoretical knowledge of it; yet one who has seen its effect early in sthenic pneumonia will admit that no remedy in present use is able to accomplish so much for immediate relief and future benefit. Objections to it are neither easily stated nor very valid. When a vital organ is engorged, the loss of a pint of blood is well borne, and there follows quick recuperation. Had evil results attended venesection in days when it was almost universally used in cases purely inflammatory, its history would have been far more brief. Common experiences in the loss of blood from injuries sufficiently indicate the harmlessness of this procedure.

Perhaps no condition is more dangerous, if not promptly treated, than that arising from *congestion and œdema of the lungs*. The speaker knew no more speedy relief than that afforded by venesection; and he related cases which proved the efficacy of this treatment. As a complication of Bright's disease, pulmonary œdema gives rise to alarming conditions, in which venesection offers reliable means of offering prompt relief at once, or after other measures fail.

In *acute pleuritic effusion*, symptoms being severe, he would aspirate without regard to the age of the effusion, and he related a case in which, a gallon of serum being removed, rapid recovery ensued. He had been surprised to find infrequent resort to this operation in chronic pleurisy, and by the fact that physicians think it often causes empyema. We know that fluid in the pleural cavity may be purulent from the outset, and that in strumous constitutions serous fluid may become purulent without operation; and, while in a few cases serum may become pus, he did not believe that this operation, skilfully done and with proper precautions, was responsible for change. He feared that the manner of doing it was sometimes in fault rather than simple withdrawal of fluid, and regretted that in details of antiseptic precaution operators are not more careful. The more slowly fluid is withdrawn, the less liability is there of subsequent danger and distress. He uses a small, bright, clean trocar, thoroughly washed in carbolic acid, and only sufficient suction to draw fluid in a moderate stream. Sometimes he allows the fluid to run off through a tube whose end is placed under water. He always ends

the operation when coughing or signs of constriction and distress begin. No bad result has followed when this care has been used. In proof, a passage was quoted from Dr. A. L. Mason's contribution to the forthcoming reports of the City Hospital: "The operation of thoracentesis was performed one hundred and twenty times, with no unfavorable results which could be attributed in any instance to the operation, but usually with great and permanent relief."

Dr. H. T. BOWDITCH, admitting that venesection had formerly been abused, thought that physicians of to-day were very wrong to lay the lancet aside. He gave instances of over-use of venesection when he was a young man, but advocated the rational use of the lancet, especially in cardiac cases attended with great distention.

Dr. S. CABOT fully endorsed the remarks of Dr. Bowditch.

Dr. LYMAN, likewise in opinion, mentioned the great relief he experienced from a bleeding during an attack of pneumonia. In the matter of thoracentesis for effusion, he related a case in which, operation being deferred, the patient died during the night. He added that wherever he had found it necessary to tap a second time, the fluid was generally more purulent.

Dr. BLAKE thought Dr. Lyman peculiarly unfortunate in finding pus at second tapping, and asked Dr. Mason to give the results of his investigations of cases occurring at the City Hospital.

Dr. MASON said that of two hundred cases of *primary pleurisy* at the City Hospital, seventy required tapping, the effusion in a large proportion being very abundant. In twenty-eight cases tapping was repeated. In six of these the fluid became purulent. Cases of pyothorax were not included in the analysis.

Dr. KNIGHT had never seen a man bled, but had no doubt Dr. Blake's view was correct in certain cases, notably in sthenic pneumonia. The only reason he had not bled in these cases lay in his failure to see them early enough to render any benefit by bleeding. In pulmonary œdema from cardiac and renal disease it is of less importance in comparison with certain other remedies. In renal cases notably, pilocarpine seems as useful as venesection. As to thoracentesis, fatal cases reported may have resulted from improper performance of operation; but the operation cannot be considered harmless, for in some fatal cases it has been properly done. In most of these cases, fluid was on left side. Thoracentesis should be done when effusion is large, causing dyspnoea, and when fever indicates empyema.

Dr. WELLINGTON had bled in pneumonia. Had seen no benefit. Was surprised to hear that patients with pneumonia should be about in a few days after bleeding, having always supposed the disease must run a stated course.

Dr. AYER believed free venesection of great benefit in pneumonia, and said it was an error of to-day to leave these cases too much to themselves.

Dr. DOE, touching danger of fluid becoming purulent after thoracentesis, said one might certainly expect such a result if air should enter pleural cavity during operation, but cited a case in which air had been injected by error when fluid was only partly withdrawn. Nevertheless, the fluid continued serous.

Dr. C. B. PORTER warmly advocated venesection. He had never employed it in sthenic pneumonia; but in cerebral congestion, indicated by intense headache and flushed face, he had frequently used it. He cited two cases of ladies who were passing their "climacteric." One was robust, the other not so. In each case the condition of the head had been relieved at once by bleeding. In one the period (four months absent) returned. He often bleeds young adults for persistent headache, to the relief of the patient.

Dr. F. C. SHATTUCK, some years ago, heard a physician of St. Bartholomew's Hospital, in London, express the fear concerning the operation of thoracentesis which Dr. Lyman entertained,—i.e., that it would convert a serous into a purulent fluid. Dr. Shattuck, however, had never seen this result, and could not anticipate it, provided instruments were clean. In proof he detailed the case of a man whom he had tapped several times within three months. Fluid at first, though thin, was purulent, but did not become any more so by subsequent tapplings. Patient recovered, the heart returning to normal site. It seemed to him, if aspiration risks development of pus in pleural cavity, that a fluid already purulent would have become pure pus between the tapplings. In reference to scepticism concerning drugs, he said experience was teaching him that there are more useful and active drugs than he at one time believed, and that their failure lies in the improper use of them rather than in the drugs themselves.

Dr. WARREN alluded to value of emetics in pulmonary oedema. He also mentioned a case of pneumonia in a robust young man, whose marked lividity and full pulse led him to propose bleeding. Being deterred by the counsel of an old physician, he did not do so, and the patient died, unnecessarily, as Dr. Warren believed.

Dr. SAMUEL CABOT reported case of pneumonia in a clergyman who in ninety minutes was livid and suffering from dyspnoea and thoracic pain. He bled him; and before operation was completed, patient was relieved, and severe symptoms did not return. He thought the course of the disease had thereby become shortened.

Dr. LYMAN read an account of *peripleuritic abscess*. Lamp-lighter, æt. 30, entered hospital with supposed pleuritic effusion. Vocation requires twelve miles' daily walking. Also

engaged in heavy lifting. Heretofore rugged and healthy. Pain in left axillary line, chills, dyspnoea, cough, and emesis. Night-sweats and general weakness were primary symptoms.

Physical Examination.—October 24: Flatness over lower left back nearly complete; absence of respiration, bronchophony, and lessened vocal fremitus. Three days later, pain in back. Found deep-seated fulness below ribs, next to spine, three to four inches diameter; tender on firm pressure. Frequent evacuation of bladder. No other renal symptoms. Urine free from albumen; specific gravity, 1026. November 1: Exploratory deep incision (swelling being markedly enlarged); evacuated {3j thick, greenish, odorless pus. Probe passed upward and forward four inches. November 5: Continuous and abundant discharge of bloody pus and profuse sweats during past three nights. Discharge slowly lessened. Ceased on 10th, and wound closed. Line of dulness descended one and one-half inches during the ten days. November 22: Respiration good everywhere, though comparative dulness at base from point two and one-half inches below scapula. February 25: All signs of lesion gone; patient healthy and vigorous. Point of special interest was as to origin of abscess. Was it case of empyema, pus escaping from pleural cavity and descending below diaphragm? Was it primarily peripleuritic abscess burrowing into loins, and by its presence causing secondary pleuritis or symptoms simulating that affection? There being no such complication as pulmonary affections, caries, and fracture of ribs, they may be excluded. Fact is established of whilom bursting of empyema into lungs or mediastinum, or spontaneous escape between ribs. Rare cases also of perforation of diaphragm. Andral gives such case. Fraentzel mentions ulcerative process through costal pleura, pus either perforating intercostals or making way down beneath ribs, until, once below diaphragm, it may go nearly anywhere. In Dr. Minot's service, a large quantity of pus was evacuated by aspiration and incision in a lad of 6, a case of empyema. Month later, following abdominal pain and tenderness, two quarts of sero-purulent fluid were aspirated in vicinity of navel, and afterwards large quantities discharged from both openings for two months, patient finally recovering. Andral gives another case, pus appearing in immense quantity below diaphragm, having followed psoas muscle behind. Courbon (*Gazette des Hôpitaux*, May, 1870, p. 237) relates similar cases. In *Medical and Surgical Journal* (November, 1877, p. 587) Dr. Fitz mentions "peripleuritis a suppurative inflammation of fibrous tissue beneath costal pleura, arising independently of traumatic causes or a preceding pleurisy, first noticed by Wunderlich in 1861, and afterwards by Billroth, Bartels, and Riegel." Leplat (*Archives Générales*, 1865, vol.

i. pp. 403 and 565), in opposition to Wunderlich, asserts that these abscesses (excluding carious or traumatic causes) are always secondary to pleuro-pneumonia or pleuritis; and his details of Wunderlich and Billroth's cases make it appear that they also were secondary, and not of independent origin as they claimed.

Reporter also thought in Bartels's cases (reported by Knight, *Boston Medical and Surgical Journal*, October, 1875, p. 437) it was not clear that abscess was not due to costal caries, instead of being primary suppurative inflammation of subpleural fibrous tissues.

In the case under discussion, diagnosis clearly lies between primary pleuritis followed by empyema, and primary peripleuritic abscess, as described by Wunderlich, with simple compression and displacement of lung, or secondary pleuritis.

Probabilities favor peripleuritic origin of the abscess. The history of the case, antecedents and ordinary vigor of patient, absence of albumen in urine, thickness of the pus, ready cessation of discharge, and brief duration of illness, with subsequent rapidity of recovery, all favor this view.

Dr. BOWDITCH said the main point to be enforced in empyema, as well as in peripleuritic abscess, was that a free opening should be made at once. He cited a case in which delay of operation had led to intestinal fistula opening into cavity of abscess, patient remaining incurable.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the Hall of the College of Physicians, Philadelphia, January 11, 1882, Dr. Albert H. Smith, President of the Society, in the chair. Dr. W. W. Keen read a paper on "Dupuytren's Contraction of the Palmar Fascia" (see page 370), and Dr. W. S. Little read a "Report of a Case of Kerato-Malacie" (see page 490).

DISCUSSION ON CONTRACTION OF PALMAR FASCIA.

Dr. De Forrest Willard recalled three cases in which the influence of diathesis and family trait seemed well marked. Two brothers and one sister of his acquaintance all have this contraction of the ring and little fingers in each hand, which commenced in all at about the same age,—between twenty and thirty years. This could not be explained by traumatism, especially in the case of the lady. One of the brothers is a merchant; the other is engaged in manual pursuits upon a farm, but, strange to say, his hands are not so distorted as in the other, who shows in one hand the ring-finger pressed directly into the palm of the hand. In the lady one of the fingers is nearly as bad.

In one of the cases reported, a peculiar

accident happened. After having the contraction for twenty years, a palmar abscess occurred, with some sloughing of tissue, which was followed by a cure. In these cases there was no history of gout, but there was a strong history of rheumatism; in both parents it had been quite severe, although neither in the individuals themselves nor in their own children were there any manifestations of the disease.

Dr. John B. Roberts referred to the rareness of this form of contraction in the toes, whereas they are so frequently the seat of other forms of gouty disease, if this be indeed a gouty manifestation. He inquired if it might be due to the different relations of the palmar and plantar fasciæ.

Dr. Keen said that it was not necessary to refer the facts observed to the difference between the plantar and palmar fasciæ in order to account for the greater frequency of this form of contraction in the fingers: he could only explain it by the well-known tendency of gout to have its points of predilection. Why gouty inflammation more frequently attacks the great toe than the other toes we are unable to say, but there must be some reason, although we cannot describe it; and he could only refer to the same cause the more frequent occurrence of Dupuytren's contraction in the upper extremity.

SPHACELUS OF THE CORNEA.

Dr. Charles K. Mills remarked points of similarity between the class of cases just referred to and those which are usually classified under the title of trophic disorders, where local affections of nutrition appear as the result of a remote lesion. In the disorder termed "acute hemiplegic eschar," in perforating ulcer of the foot, and ulcers in different parts of the body, we have conditions strongly resembling, in some respects, the affection of the eye which has been presented this evening, and which are generally thought to be due to some irritating lesion of the nerve. The pathology of acute bed-sore is now well understood since the researches of Charcot. It is caused not by pressure, but it starts acutely as a trophic disorder. He had seen a number of cases which might be classed with trophic diseases. Where he had obtained a post-mortem in these cases, some had proved to be tumor of the brain, with symptoms of eye disorder. A new growth was found in one instance in the anterior part of the brain, and implicated branches of the trigeminal nerve, not involving it destructively in the disease, but acting as an irritant by pressing upon the branches. In one case the eye had much the appearance of the case reported, with rapid breaking down and sloughing away of the cornea. So far as attributing these symptoms to general encephalitis is concerned, he did not believe that this diagnosis would add much to our knowledge, and he

failed to comprehend the relationship in the cases mentioned. As to general encephalitis, he thought it a very doubtful condition. It seemed more reasonable to believe that the disease of the eye was the result of a local intracranial lesion affecting the trophic portions of the nerves which go to the parts affected, just as in perforating ulcer of the foot or in bed-sore of the acute variety we have lesions irritating nerves.

Dr. Wm. M. Welch said that he had seen sloughing of the cornea following variola in a number of cases. He had sometimes been able to arrest it, but had also failed, the disease progressing so rapidly as to cause loss of the cornea in four or five days. In a case recently discharged from the Municipal Hospital a superficial ulcer appeared on the cornea with jagged edges, as if it had been scooped out; some pus appeared in the anterior chamber, the ulcer increased in its dimensions, and in a few days the cornea sloughed away, leaving the iris exposed. At the beginning he had made an incision into the anterior chamber, but failed to arrest the disease. The patient suffered a great deal of pain, but recovered, although, of course, without vision in the affected eye.

Dr. Chas. S. Turnbull reported a case of necrosis of the cornea such as the lecturer described. It was supposed to be of central origin, occurring during an attack of typhoid fever. He was unable to secure a post-mortem. There was complete necrosis coming on within twenty-four hours, and from this he formed an unfavorable prognosis, although other symptoms were favorable. He was inclined to believe that this disorder had a central origin, because in the cases reported in which the autopsy has been made this view has been sustained. In some cases, however, of neuro-paralytic character affecting the nerve-supply of the bulb, but not its circulation, the cornea escapes destruction.

Snellen, of Utrecht, cut the trunk of the fifth nerve in several rabbits and sewed the ears over the eyes, and demonstrated that as long as the eyes remained covered the cornea was preserved, but as soon as he took away the protecting ears the cornea sloughed in twenty-four hours. There is need for more post-mortem examinations in such cases as those reported, in order to ascertain more clearly the relations between effect and cause.

Dr. Mills said that he believed that he had seen the case referred to by Dr. Turnbull, and in which he made the same diagnosis. The patient presented this train of symptoms. He had a facial paralysis on the same side as the eye affection; upon the opposite side of the body he was partly hemiplegic. This pointed distinctly to a local lesion on that side of the pons Varolii on which the affections of the facial and trigeminal were situated. Undoubtedly it was an irritative lesion, so far as the fifth nerve was concerned.

Dr. C. H. Burnett asked whether, in the second case, the ear disorder was also thought to be due to a central cause. There are certainly a great number of cases where we observe trophic changes in the ear in relation to neuralgia of the ear, and we also are familiar with breaking down and ulcerating of the tympanic membrane resulting from diseased teeth. In fact, the ear-discharge of children is often due to reflex irritation, through the otic ganglion, during teething.

Dr. Little, in concluding the debate, said that he had learned of the death of his case too late to obtain an autopsy, but he had no doubt that in this class of cases there was an affection of the brain-tissue. Not having made an autopsy under the circumstances, he could only refer to the experience of authorities upon the pathology of the affection, from which he had derived the opinion that there could not be such a shock to the general system as the diarrhoea and the eye affection suggest, without there being some grave central lesion to account for it. The child was apparently dying when he saw it.

The second case does not properly belong to the same class as the former. It was only quoted to show that other nerves were involved, as the sense of taste, hearing, etc. There were no signs of ulceration in the ear, nor in the eye, and the ear was affected almost as quickly as the eye. It was probably a case of syphilitic meningitis or other brain disease: the response to the treatment favors this opinion.

With regard to Dr. Mills's remarks, he said that he had particularly excluded local diseases from his paper, and referred only to corneal ulcer as a result of a central brain disease.

In the cases reported by Dr. Welch, if they begin with a vesicle on the cornea they belong to a different class of cases, which do not come within the scope of the paper.

Dr. Welch explained that the cases reported by him were of the character of disorder of nutrition. Vesicles of the cornea are very rare in smallpox. This ulcer of the cornea comes on during desquamation, not during the eruption, but after it has declined. If not arrested, the process goes on rapidly to destruction of the eye.

TREATMENT OF DYSENTERY BY THE BENZOATES.—The benzoate of sodium or ammonium, given in fifteen-grain doses three or four times daily, has been found by Surgeon Harris to be of the utmost value in the treatment of acute and subacute varieties of dysentery. It has a decided cholagogue effect, and possibly the good results may be due to the increased flow of bile and its action on the congested or ulcerated large intestine. It is said that under its use the stools rapidly become fecal.—*Indiana Medical Gazette and Practitioner*, February, 1882.

THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

STATED MEETING, APRIL 6, 1882.

The President, DR. EDWARD L. DUER, in the Chair.

REMOVAL OF THE UTERUS FOR FIBROID TUMOR—DEATH—AUTOPSY.

DR. E. E. MONTGOMERY reported the following case which had been under his care at the Philadelphia Hospital:

Sarah B. (colored), æt. 46, widow, native of New Jersey, of temperate habits, has been an inmate of the Philadelphia Hospital for nearly three years. She entered the gynecological ward about the last of February, soliciting the removal of a large abdominal tumor.

The establishment of her menstrual function was attended by severe hemorrhage, but soon became regular. The menses ceased at one time for five years. She has not menstruated for two years. She was never pregnant.

The growth of the tumor, which began eighteen years ago, she attributed to a kick in the abdomen from her husband. The tumor soon acquired great size, filling up the abdomen and pressing against the diaphragm, causing great distress.

She had been treated by means of hypodermic injections of ergotin, and later by the earth treatment. The latter was followed by a slight reduction, possibly due to the rest in bed. When she came under my care, the abdomen was more prominent than if at full term of pregnancy. Owing to the woman's emaciation and the loss of muscular power in the walls of the abdomen, the mass had settled down into the lower part of the cavity, encroaching but little upon the portion above the umbilicus. A fluctuating surface, evidently the bladder, covers the whole of the lower face of the mass. The tumor was regular in outline and about equal in size on either side the median line. At the upper part of the right side could be felt a smaller, loosely connected mass, between which and the tumor the percussion was resonant.

The abdominal walls were freely movable over the tumor, but the latter could be raised or moved from side to side only to a limited extent. Examination per vaginam disclosed the whole uterus involved in the mass which rested upon the pelvis. The sound could be passed five inches into the uterine canal along the posterior border of the tumor. The posterior lip was thin.

We evidently had a fibroid tumor which had originated in the anterior wall of the uterus, and had drawn the bladder up with it as it grew.

In view of the large size of the mass, the anxiety of the patient for its removal, and her general condition, it was decided after a staff consultation to make an exploratory incision, and, if the adhesions were not extensive above

and posteriorly, proceed to the complete removal of the tumor and uterus.

The patient was kept quiet in bed one week, and sulphate of quinia (three grains), tincture of the chloride of iron (thirty drops), were given three times a day. The bowels were regulated by the use of compound liquorice powder. The urine, examined by one of the resident physicians, was found alkaline, and contained no albumen.

On March 17, assisted by my colleagues, Drs. Duer, Warder, Parish, Musser, and Hatfield, I proceeded to perform the operation under antiseptic precautions, using thymol spray. An incision three inches long was first made down to the tumor, and the hand introduced. No adhesions were found above, and but one band posteriorly. The bladder was spread out over and closely adherent to the tumor anteriorly. The opening was now extended to the symphysis below and the umbilicus above, and the tumor with some difficulty lifted through. The peritoneal covering of the tumor was burned through with Paquelin's thermo-cautery, and the bladder dissected off. The capsule was then raised on either side, permitting ligatures to be passed beneath the broad ligaments. The lower portion of the cervix was then tied in two sections, both surrounded by ligatures, and the mass removed. Although the hemorrhage had not been excessive, the condition of our patient now became critical. The pulse was very feeble,—indeed, scarcely perceptible; respiration infrequent and sighing. It was only through the persistent care of Dr. Parish in the use of hypodermics of whiskey and ammonia, and hot-water applications over the chest, that she survived until the wound could be closed. She was placed in bed and surrounded by hot bottles, ergot and digitalis were given hypodermically, and whiskey by the mouth and rectum, but without counteracting the effects of shock. She died two and a half hours after the operation.

At the autopsy a couple of ounces of bloody serum were found in Douglas's cul-de-sac. The kidneys were small, soft, flabby, and upon being opened were found dilated into sacs, the structure of them being largely destroyed. One was full of pus. The ureters were greatly dilated. They were not injured in the dissection for the removal of the mass. The heart was contracted, pale, and empty of blood. The ligatures had been applied around the cervix one and a half inches above the os.

The tumor was a solid mass weighing sixteen pounds, its longest diameter laterally, quite regular in outline, presenting from the right upper surface a smaller mass with an elongated pedicle.

Aside from the necessity of placing such cases upon record to obtain correct statistics, it is of special importance as an illustration of the advantage to be derived from a careful

study of the condition of the renal organs previous to the operation, and the increased gravity given by any symptoms that would cause us to suspect a renal lesion. We made no microscopical examination of the urine, so the presence of pus escaped notice, though its presence should have been suspected from the alkalinity of the urine.

Dr. B. F. BAER considered the examination of the urine a very important point, as albuminous or purulent urine is always a sign of danger.

Dr. H. BEATES remarked that in testing for albumen in the urine by means of Heller's test he had noticed a singular fact in some instances when the urine was alkaline or but very faintly acid. If the acid was added to the urine before boiling, no precipitation occurred; but by reversing the test, boiling first and adding the acid afterwards, the presence of albumen was shown.

Dr. MONTGOMERY, in closing the discussion, remarked that although at the autopsy one kidney was found full of pus, none had ever been observed in the urine. This was perhaps due to occlusion of the ureter from pressure by the tumor. If pus were present in small quantity, it might be considered to arise from cystitis from pressure on the bladder. But if urine is repeatedly found to be alkaline when no alkalis have been administered, it would indicate the presence of pus, although none had been found.

PHILADELPHIA ACADEMY OF SURGERY.

MEETING OF MARCH 6, 1882.

DR. S. D. GROSS, President, in the Chair.

DR. BARTON showed a case of injury to the arm in a child 3 years of age, caused by a fall. The child is unable to use the arm, passive motion is painful, there is no fracture or dislocation, and the doctor was desirous of having the opinion of the Fellows upon the case. The President and members, after examining the case, were unable to find any bony lesion.

Dr. Brinton reported a case and showed specimen of gangrene of the foot following typhoid fever. The condition was supposed to arise from embolism. There was no diabetes.

TYPHOID FEVER FOLLOWED BY GANGRENE OF THE FOOT.

W. B., aged 52 years, a sailor, was admitted to the marine ward, Jefferson College Hospital, November 7, 1881, with the following history. For two weeks preceding his admission to the hospital, he says, he was feeling bad, neither sick nor well; had loss of appetite; coated tongue; diarrhoea (slight); some fever, especially at night; headache, and slept poorly. Was in bed only two days before he came to the hospital.

On admission to the hospital, the temperature was 103.6°; pulse, 126; respirations, 26. The next morning the temperature sank to 101.8°, but rose at night. These morning remissions and evening exacerbations continued for two or three days, and then the temperature-record became irregular. The stools were not very frequent, only two or three daily, but they were soft, yellow, and very offensive. The tongue was slightly dry, had a yellow coating, except at the tip, which was red. Slight pain over the abdomen on pressure; a few rose-colored spots, which disappeared on pressure and rapidly reappeared. Percussion over the abdomen elicited tympanitic resonance. Urine scanty and high-colored, but never evincing any evidence of albumen or sugar.

Percussion of the lungs elicited dullness posteriorly over both lungs; and on auscultation posteriorly râles could be heard. Breathing was rapid and superficial.

The mind was dull and heavy; questions had to be repeated two or three times before an answer could be obtained. At night there was mild delirium, the patient sleeping for a few moments and then rousing up.

The treatment consisted of quinine gr. v. every six hours, whiskey 3ss every two hours, carbonate of ammonium gr. v every two hours, and systematic sponging of the body every two hours. The diet consisted of milk and beef-tea alternately every two hours.

Three or four days after admission he complained that his feet felt cold and numb. Bottles of hot water were put to his feet, but he still complained of coldness and numbness. Two or three days after this the toes of both feet were noticed to be growing dark. The trouble rapidly spread over the half of the left foot: the parts became black, dry, very painful, and had a disagreeable odor. The progress of the disease in the right foot was much slower, and involved only the toes and a small spot of the sole of the foot. December 5, the line of demarcation began to form in the left foot, and by December 13 it had completely surrounded the foot. In the right foot the line began some days later, and was not completed before December 20. Treatment during this period consisted of quinine and tinct. iron, and morphine sulph. hypodermically to relieve pain and promote rest. The feet were enveloped in cotton batting, and bathed twice daily with carbolicized water; afterwards permanganate of potassium and Platt's chlorides were used as disinfectants. December 31 the patient was taken before the class and the left foot removed about three inches above the ankle. The toes of the right foot were removed separately at the metatarso-phalangeal articulation, and the wounds were left to heal by granulation. In a few weeks the left stump had entirely healed, and the right foot was also practically well.

Dr. Mears spoke of necrosis following attacks of typhoid fever. He had removed the upper jaw in a child 8 years old, who had necrosis of that bone succeeding an attack of typhoid fever. Mr. Paget had called attention to these conditions.

Dr. Morton reported a case where there was diabetes; also one where amputation was done during rapidly-spreading gangrene,—patient recovered rapidly.

Dr. S. D. Gross thought that it should be the rule in rapidly-spreading gangrene to amputate irrespective of a line of demarcation or waiting for it to form.

Dr. S. W. Gross thought high temperatures in these cases were rather an indication to adopt amputation than otherwise.

Dr. Hewson gave an illustration of a case where gangrene followed exposure to extreme cold, and amputation was performed successfully.

Dr. Morton reported two cases of injuries to tongue, where, by gunshot, in each of them a tooth was driven into the tongue. The first was a female brought to the hospital. While looking out of a window, a pistol was fired at her and struck her teeth, driving one of them into the tongue.

The other was that of a man who was shot in the mouth and had one premolar tooth driven into the tongue, where it remained for six weeks. On examination, a small sinus led to it, and with difficulty it was removed by placing the patient under ether and making a lateral incision into the tongue.

Dr. Morton reported a case of injury to the perineum and abdomen by a pickaxe. The axe entered the perineum and passed nine or ten inches into the abdomen. The patient recovered.

Dr. Hewson mentioned a case of wound of perineum, vagina, and buttock by falling astride of a fence where there were nails. Three or four of these perforated the parts. The limbs were bound together, the water drawn off by a catheter, and the patient made a good recovery.

Dr. Hunt spoke of a case of wound of neck, brachial plexus, and lung by a crow-bar one and one-eighth inches in diameter. The patient fell from a scaffold and struck upon the bar, which was projecting point upward. It passed nine and one-half inches backward and downward, wounding the lung. The chest was strapped, and the patient kept quiet under opium. He recovered with partial paralysis of the under side of arm.

O. H. ALLIS, M.D.,

Recorder.

NATIONAL SURGICAL ASSOCIATION.—The Fourth Annual Meeting of the National Surgical Association will be held in Philadelphia, May 31 and June 1 and 2. The College of Physicians has kindly tendered the use of its hall for the sessions.

REVIEWS AND BOOK NOTICES.

AN INDEX OF SURGERY: BEING A CONCISE CLASSIFICATION OF THE MAIN FACTS AND THEORIES OF SURGERY; FOR THE USE OF SENIOR STUDENTS AND OTHERS. By C. B. KEETLEY, F.R.C.S., Senior Assistant-Surgeon to the West London Hospital, etc. 8vo, pp. 208. New York, Bermingham & Co., 1882.

Works like this bear to surgical literature in general much the same relation that beef-tea and allied articles do to ordinary table-diet; and they are open to like doubt as to their nutritive value. The preparation of this Index has evidently cost its author a good deal of honest labor; and the result is perhaps as good as could be obtained on such a plan. We have tested it in several points, and found nothing to comment upon in the way of inaccuracy or omission; yet, from the extreme condensation of the style and the alphabetical arrangement of the subjects, it can never take a place among books to be read. The utmost that can be expected for it is that it may become popular among students preparing for examination, and possibly that it may sometimes be consulted for a concise statement of some doubtful point in theory or practice.

Should this work reach a second edition, we think its value would be greatly enhanced by the addition of systematic references to the best sources of information on each subject, whether in treatises, monographs, or ephemeral articles. A book on this plan would form an important aid to all students of surgical literature.

GLEANINGS FROM EXCHANGES.

LIGATURE OF THE VERTEBRAL ARTERIES FOR THE CURE OF EPILEPSY.—Dr. William Alexander reports most marked benefit in epileptic patients from ligaturing the vertebral arteries, either consecutively or simultaneously. The results are no less obvious upon the psychical phenomena, for the violent mania, "howling" idiocy, or intense egotism, accompanying the fits, is also modified. From an experience of about a score of cases, he concludes that the operation has a decided effect both upon the mental condition and upon the number of convulsions, and says, "I can strongly recommend the operation where other means have failed and where the fits are so numerous as to interfere with the patient's usefulness or his mental powers. I have tried it now in hereditary cases, in epilepsy following scarlet fever, blows, fright, and in cases where no cause could be ascertained. In all the effect was beneficial, and mostly curative, as far as time has allowed us to judge."—*Medical Times and Gazette*, March 11, 1882.

A CASE OF PSEUDO-HERMAPHRODISM.—The following interesting specimen was presented before the Berliner Medizinischen Gesellschaft recently, which illustrates a very rare form of congenital deformity. It was from a child which at its birth was believed to be of the male sex, without question. Subsequently it was found that the supposed penis was not permeable, but the urine was discharged through a pin-head-sized opening upon the perineum, right above the anus; at the same time the general appearance of the external genitals left no doubt of the male sex. The child died at four months of age with summer complaint, and the post-mortem examination revealed the fact that it was really a female, the internal genitalia and adnexa being normally developed. There was a uterus four cm. in length, from which on each side the Fallopian tubes passed to normally-sized ovaries; the vagina was only rudimentary. The openings above the anus passed into the vagina, and also into a bladder which was otherwise normal. The supposed penis was only an exaggerated clitoris; it contained three corpora cavernosa.—*Deutsche Med. Zeit.*, February 23, 1882.

SARCOMA OF THE DURA MATER.—At the February meeting of the Berliner Medizinischen Gesellschaft, Dr. P. Guttman showed a specimen of a spindle-celled sarcoma of the dura mater obtained from a woman 59 years old, who six weeks previously had been suddenly seized with unconsciousness; afterwards, on coming to herself, she noticed a weakness of the left arm and leg. In the hospital slight left-sided facial paralysis was also detected. These symptoms suddenly increased, and death supervened. At the autopsy there was found a sarcoma of the dura mater, which projected from the external surface of the dura (from the periosteum) so as to exert a pressure upon the right hemisphere, in the same manner as an apoplectic effusion.—*Deutsche Med. Zeitung*, No. 8, 1882.

NUTRIENT SUPPOSITORIES.—In cases of gastric ulcer, carcinoma, and other conditions requiring rectal alimentation, the administration of nutrient enemata may be well supplemented, as recommended by Dr. H. E. Spencer (*Practitioner*, February, 1882), by nutrient suppositories, made with artificially-digested meat mixed with a little wax and starch and made into a suppository. The suppositories are of such a size that the digested and extracted product of twenty ounces of meat, from which the insoluble matter is removed, is contained in about five suppositories. The convenience of the method is great, as the patient can introduce them himself if necessary, and their use is attended with no discomfort in the majority of cases.

[It would seem that large soft gelatin capsules filled with the peptone might be similarly employed, this method having decided

advantages over the ordinary nutrient enemata, even if the rectal speculum should be found necessary in their introduction.—*REP.*]

MISCELLANY.

OPIUM-TRADE IN CHINA.—The opium-trade is now almost entirely in the hands of the natives. The American Consul at Ningpo says that while the United States prohibits its steamers and ships from carrying the article, and will not permit American citizens to prosecute trade therein, almost every Chinese official has an interest in Chinese vessels engaged in the business. Chinese ships flying the Chinese flag can carry opium, and do so every day, while American ships under the American flag and manned with American sailors are excluded from doing so. The total imports at Ningpo for the year ending June 30, 1881, amounted to \$10,500,000, of which \$6,300,000 was in opium brought to that port mostly in Chinese bottoms. He further says that it might be quite time enough for America to take a prohibitory attitude on this opium-question when China may set the example.—*Oil and Drug News*, March, 1882.

DEATH FROM FRIGHT OR SYNCOPE.—REMARKABLE COINCIDENCE.—In this city, on the night of the 8th instant, Mrs. Sarah Watson was taken sick, after retiring for the night, with symptoms of apoplexy, and shortly expired. Her sister, with whose family Mrs. Watson resided, swooned at the bedside, and died within ten minutes. A third sister, being quickly summoned to the house, saw her sisters dying, and likewise fell unconscious, and died of cardiac paralysis,—all three deaths occurring within twenty minutes. At the coroner's inquest it was found that Mrs. Watson died from apoplexy; the others, of nervous prostration or shock. The sisters were aged respectively 52, 56, and 58 years, and were all quite stout.

OUTBREAK OF TRICHINOSIS.—Ten persons in Bridesburg were taken sick after eating some half-cooked ham on the 31st ultimo and 1st instant. Three or four days later one of the children was taken ill, and during the day all the members of the family, consisting of eight persons, and two neighbors who had likewise partaken, were also affected. The mother died April 10, and a child of 3 years since: one of 8, also, is not expected to recover. It is worthy of notice that the remainder of the ham was given to a neighbor's family, and a slice of it fried and eaten by one member, without any bad effects; the others ate it raw, and were affected as above stated. Examination of the ham showed the presence of trichinæ in immense numbers; and living trichinæ were also found in the muscles of the one who died by Dr. R. Bruce Burns, of Frankford, who attended the family.

PRIZE ESSAYS.—The International Committee of the Red Cross for Sick and Wounded Soldiers has offered prizes of two thousand francs for the best, and five hundred francs for the next best, **essay on the best means of improvising aids for the wounded and sick.** Essays are to be sent in before the 1st of April, 1883. Further information may be obtained by addressing the Secretary, Rue de l'Athénée, 8, Geneva.

EXPLOSION IN A DRUG-STORE.—While Frederick Loos, a young drug-clerk, was compounding a throat-gargle composed of chlorate of potassium and tannic acid, at the drug-store of Curtis W. Turner, No. 4441 Frankford Avenue, recently, an explosion occurred, breaking glass and burning Mr. Loos about the head and both hands, the injuries to the latter being such as will prevent their use for some time. An ounce of each of the compounds named had been pulverized separately, and the explosion occurred when the tannic acid was dropped into the mortar, the presumption being that the heat generated in pulverizing the potassium by being rubbed too rapidly was the cause of the explosion.

INCREASING TEMPERATURE OF A DEEP MINE.—The following are the depths in feet and temperature in degrees Fahrenheit in the Comstock Lode, as noted by Charles Forman, the Superintendent:

Feet.	Deg.	Feet.	Deg.
100	50½	1300	91½
200	55	1400	96½
300	62	1500	101
400	60	1600	103
500	68	1700	104½
600	71½	1800	105½
700	74½	1900	106
800	76½	2000	111
900	78	2100	119½
1000	81½	2200	116
1100	84	2300	121
1200	89½		

—*Pacific Medical and Surgical Journal.*

THE STATE MEDICAL SOCIETY.—The next meeting of the Pennsylvania State Medical Society will be held in Titusville on the 10th, 11th, and 12th of May.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM APRIL 2 TO APRIL 15, 1882.

GREENLEAF, CHARLES R., MAJOR AND SURGEON.—Relieved from duty in Department of Dakota, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 78, A. G. O., April 5, 1882.

WOODHULL, A. A., MAJOR AND SURGEON.—Now awaiting orders, to report in person to the Commanding Officer of the recruiting department, David's Island, N.Y.H., for duty at that post. S. O. 78, c. s., A. G. O.

WILLIAMS, JOHN W., MAJOR AND SURGEON.—Relieved from duty in Department of the Missouri, to proceed to Washington, D.C., and report to the Surgeon-General. S. O. 78, c. s., A. G. O.

WATERS, W. E., MAJOR AND SURGEON.—Relieved from duty in Department of Texas, to proceed to Washington, D.C., and report to the Surgeon-General. S. O. 78, c. s., A. G. O.

JAQUETT, G. P., MAJOR AND SURGEON.—Relieved from duty at David's Island, N.Y.H., to proceed to his home and report by letter to the Surgeon-General. S. O. 78, c. s., A. G. O.

BROWN, J. M., MAJOR AND SURGEON.—Relieved from duty in Department of the Missouri, to proceed to Cincinnati, Ohio, and, on arrival, report by letter to the Surgeon-General. S. O. 78, c. s., A. G. O.

CLEARY, P. J. A., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and, on expiration of his present sick leave of absence, to report by letter to the Surgeon-General. S. O. 78, c. s., A. G. O.

CRONKHITE, H. M., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months from June 1, 1882. S. O. 80, c. s., A. G. O.

CARVALHO, CARLOS, CAPTAIN AND ASSISTANT-SURGEON.—The extension of his leave of absence on surgeon's certificate of disability granted him in S. O. 256, November 12, 1881, from A. G. O., is still further extended six months on account of sickness. S. O. 80, A. G. O., April 7, 1882.

LAUDERDALE, J. V., CAPTAIN AND ASSISTANT-SURGEON.—Having reported by letter to these headquarters, is assigned to duty at Fort Sully, D.T., to which post he will proceed and report for duty. S. O. 47, Department of Dakota, March 27, 1882.

BYRNE, CHAS. B., CAPTAIN AND ASSISTANT-SURGEON, FORT BARRANCAS, FLA.—Assigned to temporary duty at M^t. Vernon Barracks, Ala., during absence of Assistant-Surgeon Cunningham. S. O. 41, Department of the South, April 12, 1882.

MOSELEY, E. B., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Platte, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 78, c. s., A. G. O.

FINLEY, CAPTAIN AND ASSISTANT-SURGEON.—Having reported at these headquarters, is assigned to duty at Fort Concho, Texas. S. O. 35, Department of Texas, April 8, 1882.

MAUS, L. M., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at David's Island, N.Y.H., to report in person to the Commanding General Department of the Missouri, for assignment to duty. S. O. 78, c. s., A. G. O.

KILBOURNE, H. S., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, and to report in person to the Commanding General, Department of Dakota, for assignment to duty. S. O. 78, c. s., A. G. O.

TAYLOR, M. E., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Missouri, to proceed to St. Louis, Mo., and, on arrival, report by letter to the Surgeon-General. S. O. 78, c. s., A. G. O.

SPENCER, WM. G., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months, with permission to apply for an extension of two months. S. O. 80, c. s., A. G. O.

CORBUSIER, W. H., CAPTAIN AND ASSISTANT-SURGEON.—Now awaiting orders, to report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 78, c. s., A. G. O.

CUNNINGHAM, T. A., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for fifteen days. S. O. 40, Department of the South, April 3, 1882.

DAVIS, W. B., CAPTAIN AND ASSISTANT-SURGEON.—Now awaiting orders, to report in person to the Commanding General, Department of the Platte, for assignment to duty. S. O. 78, c. s., A. G. O.

CHERBONNIER, A. V., CAPTAIN AND MEDICAL STORE-KEEPER.—Granted leave of absence for four months, on surgeon's certificate of disability. S. O. 77, A. G. O., April 4, 1882.

KING, WILLIAM H., CAPTAIN AND ASSISTANT-SURGEON.—To be relieved from duty in the Department of the East on receipt of this order, and then to proceed to his home. Granted leave of absence until further orders, on account of sickness. S. O. 82, A. G. O., April 10, 1882.

PHILADELPHIA, MAY 6, 1882.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON CÆSAREAN SECTION BY PORRO'S METHOD.

BY PROF. JOSEF SPAETH, M.D.,
Vienna.

Reported by WM. W. JAGGARD.

ABOUT one week ago, a woman presented herself at the lying-in ward of Prof. Josef Spaeth, seeking admission. The usual examination brought forward the following facts:

The woman, 21 years old, lightly built, of medium height, somewhat pale, primipara, expected to be confined towards the latter end of March. By abdominal palpation it was not possible to fix the position of the foetus. Vaginal examination revealed a very much deformed pelvis, of the Robert type, greatly narrowed in the transverse diameters, while the antero-posterior diameters were almost normal. Measuring the pelvis by Baudelocque's callipers, it was found that the distance between the anterior superior spinous processes of the ilia was 21 cm.; between the iliac crests, 26 cm.; between the great trochanters, 26.5 cm.; external conjugate diameter, 18½ cm.; internal conjugate diameter, 10 cm. The normal diameters, as taught by Prof. Spaeth, are respectively 26, 29, 31, 20, 13 cm. A slight lateral curvature was noted in the thoracic region of the spinal column, attended with its compensatory curvature. The sacrum was very convex. No evidence of rachitis was observed. The rami of the pubes and ischia approximated each other so closely that the finger could with difficulty be introduced into the vaginal canal. It was possible barely to touch the os uteri.

The diagnosis of an osteo-malacic pelvis was made, and the patient was given excellent diet in a special room, with the view of a possible Cæsarean section.

Upon the evening of the 8th of March, the bag of waters ruptured very unexpectedly. Prof. Spaeth judged 7 o'clock A.M., March 9, the best time for operation, when the pains were between five and six minutes apart and the os externum was slightly dilated.

The method chosen was "sectio Cæsarea, with supravaginal amputation of the vaginal portion, according to Porro, or hysterotomy." Müller's modification of Porro's operation was in reality practised.

The patient was chloroformed, and the skin of the abdomen thoroughly washed with a thirty-per-cent. solution of carbolic acid. The bladder was then emptied by a catheter. The primary incision extended from four centimetres above the navel to three centimetres above the symphysis, and was convex to the left, to avoid important structures. The slight hemorrhage occurring after the cut was at once arrested by ligatures. A large pear-shaped tumor immediately appeared in view, and was brought out of the abdominal cavity by pressing inward the flaccid abdominal walls. (In this consists Müller's modification of Porro's method. It is practicable only where the external incision is long and the uterine tumor is small. The advantage is obvious, as affording great protection to the abdominal cavity.) While assistants pressed the abdominal walls tightly around the extruded uterus, to protect the cavity of the abdomen from blood and liquor amnii, Prof. Spaeth made an incision, longitudinal in direction and extending from the fundus to the os internum, penetrating into the cavity of the uterus. The infant was immediately extracted, and the professor was rewarded by a lusty cry. The child proved to be a female, 44 cm. long, and weighed 2150 grm. Prof. Spaeth called attention to the long incision into the uterus as a necessary precaution against uterine contraction during the extraction of the child. In a former case, where the incision was small, the uterus contracted around the neck of the child during its delivery, and caused fatal asphyxia. After the birth of the child, the chain of a Billroth écraseur was placed around the junction of the cervix with the corpus uteri, in such a way that both ovaries were situated above the chain. The chain was quickly made taut and the site compressed, in order to shut off access of blood to the part and to reduce to its smallest compass the bleeding surface. As soon as the blood ceased to flow from the vessels in the uterine incision, the placenta was removed. Fortunately, it was attached to the posterior wall of the uterus, and very slight loss of blood ensued. The uterus and ovaries

were then removed by several swift cuts with a knife, leaving a cuff-shaped stump 9 cm. long. This stump was carefully trimmed of its ragged edges, and was cauterized with Paquelin's cautery to prevent hemorrhage and sepsis. The abdominal cavity was very carefully freed from all foreign matter by bleached carbolized sponges held by forceps, and the upper portion of the wound united by five deep silk sutures. Out of the lower part of the wound hung the *écraseur-chain*, closed and freed from the rest of the instrument. The stump was retained in this position by pins. The intervening portions of the wound were united by innumerable superficial silk sutures.

The wound was dressed with iodoform powder thickly strewn over it; over the iodoform, cotton (disinfected) was placed, held in position by a tightly-applied mackintosh. A very firmly-applied Scultetus bandage completed the dressing. The operation lasted one hour.

When the patient came out of her narcosis, she complained merely of a slight burning sensation in the abdomen. Her temperature before the operation was 37.8° R.; pulse, 54. After the operation her temperature was 37.3° R.; pulse, 54.

Fifteen hours later the patient was doing well, with pulse and temperature as noted, and had taken a little soup.

The child is living, active, and promises to remain in that condition. The *écraseur-chain* will be removed in fourteen days if the patient live.

Professor Spaeth naturally made a very guarded prognosis. He places the percentage of recoveries rather low,—forty per cent. Professor Carl Braun thinks that about sixty per cent. of the mothers recover, but makes no allusion to the survival of the children.

Sectio Cæsarea, with supravaginal amputation of the vaginal portion of the uterus and both ovaries, was first practised, with good result, by Porro, in Pavia, 1876, and afterwards by Spaeth, in Vienna, 1877. From 1877 to 1879 more than thirty-five operations after this method occurred, with good results in more than one-half the cases.

K. K. ALLG. KRANKENHAUS, March 9, 1882.

VERTIGO IN BRIGHT'S DISEASE.—Dr. Saundby has found the greatest benefit from caffeine or thein, gr. i-ij, in pill, three times a day.

ORIGINAL COMMUNICATIONS.

REMARKS ON THE USE OF ICE IN THE PREVENTION OF MAMMARY ABSCESS.

Read before the Philadelphia County Medical Society, January 25, 1882,

BY M. O'HARA, M.D.

IN 1879 I was called to visit a lady entering the eighth month of pregnancy, with a phlegmonous inflammation of the left mammary gland and the surrounding cellular tissue. The cause assigned was a kick of a child which was sleeping on the same bed. There was intense congestion, inflammatory exudation, very great local pain, and high constitutional irritation. Fearing premature labor from the severe constitutional disturbance, I exerted speedily all the forces at my command, locally and generally, to abort the inflammation: I used lead-water and laudanum, belladonna, camphor, compression, with aconite, veratrum, and morphia, etc., all without avail. Suppuration ensued, and, to relieve tension and agony, the knife was used. Notwithstanding these efforts, premature labor set in, resulting in the successful delivery of a seven-and-a-half-months child. After the incision into the left breast and cellular tissue, both glands took on the secretion of milk, but a mammary fistula occurred, which was so annoying, by the copiousness of the discharge, as to prevent the lady from resuming her household duties. Everything was used, of special or general value, to reduce the secretion of milk and to permit the closure of the fistula, such as iodides, bromides, belladonna, salines, pressure, etc., but all to no purpose. In the third month of lactation rigid dieting lessened the distention and fulness of the breast by reducing the whole amount of the circulating fluid, and the fistula closed naturally. The child nursed thereafter at both breasts and thrived vigorously. The father insisted several times that the child should be weaned, in order to relieve the mother of the soaking of milk about her clothes; but, as the child was puny and undeveloped, and the heat of summer was extreme, I considered it criminal to deny the child the mother's milk: therefore I tried various means to dry up the left breast and leave the right intact; but the effort did not succeed. I thought then that I could not dry up one

breast without at the same time arresting the secretion in the other, but I offered to try it with the ice-bag, which was refused; luckily, by low diet, at somewhat of a risk, though, I accomplished the purpose. I have thought often, since that time, that, following the practice of Dr. Corson, I could have averted the whole trouble and pain, and have permitted the patient to recover speedily from the traumatic mammary inflammation, by a speedy use of the ice-bag.

In the same year, Mrs. — was delivered at full term of a healthy boy. The nurse was an old family attendant, who by her care of the breasts of females intrusted to her previous to labor could almost warrant that they would never have a gathered breast. She had had the breast in training for some time. Both breasts gave milk, but not in a very satisfactory manner to the child, for two or three weeks. There was no healthy-shaped conical nipple to either. I expressed my anticipation of a mammary abscess from want of free flow of the milk, due to the condition of the left nipple, some abnormal development of the nipple and some of its outlet tubes, resulting in backward distention of the lobules, milk-accumulation and inflammatory irritation in the milk-reservoirs, then extension to the cellular tissue, and abscess. The larger portion of the gland was thus affected, and there was no option but an artificial opening; due drainage, and the non-use of the organ, set that breast all right.

The right breast had a very small nipple jammed in the breast in a hollow, and somewhat turned upon itself. I kept the baby on this breast for several days. The lower half of the milk-ducts gave milk, but the upper half did not. There was a lump to be felt on the upper portion of the breast, which was a distended lobule or lobules corresponding to the excretory ducts which were occluded. As the breast became distended, signs of suppurative inflammation occurred in this; and two weeks after the other breast was lanced, this one had to be relieved in the same manner, and both breasts became *functus officio*.

I believe the trouble in the right breast might not have amounted to an abscess but for the extra filling by reason of the cessation of the function in the left. I saw that some of the tubes were not open

or not allowing an outflow of milk; but, being filled with milk, the additional afflux of blood seemed so to congest the erectile tissue about the nipple as when in a state of erection to kink up and prevent other excretory ducts from emitting their contents, and distention of the lobules was of course imperative. I may say here that I tried by shields and traction to modify the condition of the nipple, not using any violence, but concluded there was some abnormal condition of the nipple and tubes, whether congenital or acquired. In this case I should fear the same condition would be gone over again, if proper means were not taken during the pregnancy to develop the nipple, and, failing that, to forbid the use of the breast. One might be tempted, in the interests of the child, to get as much use as possible of the breasts, and depend on the ice-bag, which I believe could be successfully used at the moment of imminent signs of suppuration occurring. I feel warranted in saying this, by my experience in the next case to be related.

I attended Mrs. O'C. three years ago. She had a typically normal left breast and nipple, but the right nipple was flat, depressed, and distorted. The child did not care to use this breast, and no amount of pulling out or countersinking the nipple with a shield could bring it out. Neither could it be freed by the pump, which, when used, gave very much pain. Gradually, from the distorted, kinked, or strictured nipple-tubes, milk-accumulation, inflammatory irritation, and mammary abscess occurred. She suffered some weeks of agony, which I desired to spare her by an early incision, which she refused until it pointed, when I opened it. She had a tedious recovery from the agony and prolonged drain of pus, and the breast was left damaged considerably, and also a much worse nipple was left.

She was confined again four months ago. The day after the birth she told me she wanted no more gathered breasts. I examined the damaged breast. It showed above the nipple a veteran scar, was cocked upward, and promised no future as a nursing organ. The other breast was good. That belonged to the child, and I had no right to meddle with it. Yet even now the right breast was painful and swollen, with pain felt in the arms and under the clavicles. I told her my idea was that I

could not keep the left breast for the baby; that I must dry up both. She said I must do it, for doctors must have some means of doing anything they wanted.

It then occurred to me to try the ice. I put on a circular plaster of the india-rubber combination of extract of belladonna, with a hole cut through which the nipple protruded. I filled a thin rubber bag with ice, and gave directions to keep it constantly applied. She kept it constantly applied, not always on one spot, but changing it from the upper part of the breast to the lower, sometimes towards the clavicle, and sometimes on the side of the chest. She shifted it from the breast to the contiguous territory, admonished to change it by her own desire of relief from pain, which would recur in various parts around as the inflammation attempted to pursue its course. She seemed to understand that the breast was furnished with its blood from many arterial branches, and when the irritation from one region was subdued, had to get at another. The application of the ice-bag was immediately followed by a relief of pain, and she was enthusiastic in its praises. It was kept in use night and day for six days. On the third day the milk came in the other breast, and the baby has used it from that day to the present. There was no interference with the general system, except favorably, in abating the rather high constitutional irritation due to the mastitis of the right breast.

On the fourth day she complained of severe local peritonitis. She had been kicked by her elder child in the abdomen, and the inflammation appeared to localize itself in the broad ligaments. The use of morphia, leeching to twelve ounces, and the use of the ice-bag to the abdomen, relieved this feature in twenty-four hours.

On the sixth day the breast presented the appearance in size and to touch of the same organ prior to pregnancy, and there has been no complaint of it since.

There was much interference by officious neighbors, who told them the ice had caused the peritonitis, but the patient bravely held on to it, and the ice-bag has won a victory in that neighborhood. I wondered that it produced so little disturbance to the organism, and I began to think that Dr. Hiram Corson was not over-enthusiastic in his statements as to its virtue in the prevention of mammary abscess and even

arresting the process of suppuration. I think it ought to be more in use in the prevention and cure of inflammations of the breast.

Dr. Goodell read Dr. Corson's paper before the Philadelphia Obstetrical Society, November 4, 1880, and it is reported in the Proceedings of the Society for that year. He has used ice for mammary abscess for many years. It appeared from the debate upon his paper at that time to be unknown as a mode of treatment to Philadelphia physicians then present. The causes of mammary abscess are numerous, and I have not gone into them. Dr. Corson has given many, but neither he nor the members of the Society in that debate appear to have spoken of the cases dependent upon obstructed nipple-ducts or deformed nipples. Dr. Ingham expressed the opinion "that mammary abscess is undoubtedly generally the result of fissured nipple." I have seen very many cases of fissured nipple without this result, and if you get a normal breast and well constructed in its delivery-tubes you can often treat fissure successfully. But you will hardly escape abscess in the cases alluded to in this paper.

Byford, in his "Diseases and Accidents incident to Women," says, "Anatomical causes of inflammation of the breast exist to a great extent. They are sometimes congenital, sometimes hereditary, but I think for the most part brought about by improper dressing. The flat, undeveloped, or retarded nipple is one form which prevents the perfect performance of suckling. Nursing is often impracticable." He speaks of a very broad but extremely short nipple entirely too large for a child's mouth and too short for prehension; another, a breast with scarcely a trace of the peculiar warty tissue-like nipple; another, a very small nipple, where the milk-tubes seem to be bound in such a contracted bundle as not to allow free egress to the milk. He mentions a type in which I would place my second case (the right breast), a nipple large enough to be easily taken by the child and drawn, but the milk-tubes on entering turn too acute an angle, and a little swelling of the sub-areolar tissue from the retention of the milk will stop them entirely, so that the milk will not pass out, and if the gland continues in full function we must have inflammation and abscess. It would be interesting to discuss whether

these are rudimentary nipples or due to tight lacing and the faults of female clothing, and whether physicians ought not to teach patients how to avoid them if preventible. If anything can be done for the improvement of the defective organ, it must be during the pregnancy. It is too late to do anything after the labor. On this I should like to hear the experience of others.

If we do try after the gland is in function and fail, we have no right to be censured, and shall not be, if we explain correctly to the patients, and seeing the storm coming we can, I think, by the use of ice prevent an abscess from this cause or other causes.

My experience of ice only goes to preventing abscess by drying up the breast. We are not allowed to try many experiments on our patients, yet I think it would be very judicious treatment to use coils of india-rubber tubing, with a constant current of water of the temperature we choose, and draw the line exactly by experience between due physiological and pathological congestion of the breast, and not as in these cases I have referred to, where from necessity we are forced to annul the function of lactation; for when we determine that the nipple is useless the woman ought not to be compelled to go through the agony of a gathered breast.

The time allowed me is so short that I cannot quote from Dr. Corson, but I must notice a criticism of Dr. Corson's treatment, by Dr. G. B. Fundenberg.* He says that, for various reasons, he considers other measures preferable, especially the use of belladonna and pressure. Pressure is the prime factor, belladonna the auxiliary. By pressure, "a tight body" compressing both breasts for forty-eight hours, and the use of 3ij of extract of belladonna to 3ss of glycerin, he reports successful results. Now, I have tried compression in many cases with belladonna, and there is no comparison between the two modes of treatment. I have not the slightest faith in belladonna in any shape in a severe form of mammary inflammation, and in future will have no reliance on it. This is the result of experience in these cases just mentioned and many others. It will do in mild cases, but they would probably get along as well by themselves. But as Dr. F. speaks of compression, that is ser-

viceable. And where can you get better means of compression than ice? Ice carries its compressing power deep into every cell and every fibre of the tissue; compression otherwise is only superficial, and cannot go to the intimate depths of every little cell. Compression will not act on the afflux of blood; ice will. Compression is painful; ice is anæsthetic. The sensation is blunted and pain relieved; an inflamed breast bears badly compression. Ice constricts everything,—blood-vessel, nerve-fibre, muscle, and cell, wandering or fixed,—and stops the active formation and progression of the leucocytes, and it is a very simple, easy, and efficient mode of compression. I think those who use it freely will accord it the merit of being a perfect agent of pressure.

31 SOUTH SIXTEENTH STREET.

NOTE ON NITRATE OF SILVER IN DYSMENORRHEA.

*Read before the Philadelphia County Medical Society,
January 25, 1882,*

BY WM. R. D. BLACKWOOD, M.D.,
Physician to St. Mary's Hospital.

ON the opening evening of our course of meetings for 1880-81, I had the honor of reading a paper on "The Treatment of Dysmenorrhœa by Electricity," and, although my cases since then have all been treated in the same manner and with similar success to that narrated in the article referred to, my attention has been called to the prospective value of *argentic nitrate* in painful menstruation, by pure accident. Several cases of typhoid fever have passed through my hands since the evening referred to,—September 8, 1880,—and in some of these people, especially in those living in the district supplied by the Kensington sewage-water corporation, a tendency to continued diarrhœa was evinced for a considerable time subsequent to their recovery from the specific fever; in fact, the bowel looseness held on, despite varied therapeutic efforts, in several women especially, for some six or eight months, those convalescing during the depth of winter being the most stubborn. It occurred to me as a reason for this that the dejecta of various sorts thrown into the river at Gunner's Run were retained in front of the pumping-station by floating ice, thus contaminating the supply more than would be

* *Pittsburg Medical Journal*, October, 1881.

the case in the warmer months, when the river-current was unimpeded. At any rate, the hydrant water, both liquid and frozen, was very dirty; it was at times absolutely unfit for use; and on it I laid the blame, and additionally an embargo in those able to afford a full supply of ice from a reputable company, this being used for both drinking and cooking for the invalid at least, if not for the entire family.

Whilst those who used the melted ice, as observed, got better more readily than those who did not, they all, nevertheless, needed somewhat active treatment, and, without going into detail, suffice it to say that after a thorough trial of the ordinary means used under similar conditions, I found the administration of nitrate of silver to be more effectual than any other remedy. I settled down on a pill containing one-eighth of a grain of the silver salt and half a grain of ext. cannabis Indica, repeated four times daily, and under this the diarrhoea was checked, the appetite improved, and the indeterminate abdominal uneasiness or pain disappeared.

I am aware that this salt has been long used in typhoid, but I have never found it necessary to employ it during the attack. The cases to which reference is made were varying in severity, were not readily controlled, and the diarrhoea referred to was not that found in the so-called relapsing cases. It was similar to that seen in patients convalescent from severe remittent fever, or yellow fever, such as I have frequently seen in the South.

Among those treated were two cases in which dysmenorrhoea was associated. One of these I had under my charge several years ago for painful menstruation, and she was considerably relieved, but not cured. I did not use electricity in her case, because at that time I had not developed the method which I now employ, but I did give cannabis Indica in large doses without the slightest good effect after a fair trial. The other patient had but temporary relief after long treatment, and for several years past she gave up medical advice. I never treated her except for typhoid, which, with the antecedent dysmenorrhoea, had been her only illness thus far. Both ladies suffered very much during the catamenia after convalescing, until I ordered the nitrate of silver, *and from the time that was taken until now they have menstruated normally and painlessly.* I have purposely kept them

under treatment although the original incentive has passed away, and I shall do so for a little while longer. Is there anything in this? No mention is made of this salt in dysmenorrhoea in any work consulted, except as a caustic applied to ulcerated os or cervix, which, of course, has no constitutional action. The objection that discoloration of the skin follows prolonged administration would preclude its extended use, but something in the way of experiment might be justifiable.

That none of the effect was due to the hemp is certain, for in any instance heretofore which was even relieved by it in my hands the quantity given had to be very much greater,—not less than twelve grains, and generally double or treble that amount, daily being taken. The solid extract is unreliable, and I always use a concentrated tincture made by Messrs. Wyeth & Bro., the strength of which is quadruple that of the ordinary tincture of the Dublin Pharmacopœia. The extract used in these convalescing typhoid cases was apparently inert on trial, and was therefore simply an excipient.

If the result attained was attributable to the silver,—and I believe it was,—the explanation of its action would be interesting. The salt is one which promotes waste or destructive metamorphosis, as does mercury or iodine, but, as neither patient was plethoric, and one, indeed, anæmic, this attribute of the drug would not here hold good. Further, neither case was of the so-called congestive variety; the uterus in each was small, and the dysmenorrhoea was purely neuralgic in one, and obstructive from flexion in the other; yet each was promptly relieved,—I may say cured, if nearly a year of painless menstruation might be so termed. That it possesses decided power in diseases of both cerebral and spinal affections is proved by its value in epilepsy in the first class, notwithstanding its disuse lately in favor of other more fashionable yet not always more effectual drugs; and in the second through its equally undoubted control over posterior spinal sclerosis in several reported cases, and in two of my own not reported. In both these intractable diseases it has, of course, failed repeatedly, but so has every remedy, and it is by no means to be despaired. I confess my inability to solve the problem as to how it acts, but we have members whose special excellence in

nervous disorders might be equal to it, and I should be glad to hear from such.

246 NORTH TWENTIETH STREET.

[In the discussion following this brief note, the ingenious suggestion made by Dr. Woodbury that the silver salt might be excreted in part or in whole by the uterus led me to test the mucus from the interior of the two organs; but no reaction was obtained. W. R. D. B.]

January 31, 1882.

A CASE OF PRURIGO.

BY HENRY C. BOENNING, M.D.

THE following rare case of skin disease came under my observation in the spring of 1879, while in charge of the practice of my preceptor and friend the late Dr. F. F. Maury, of this city.

Joël B., a school-boy, 14 years old; first noticed the disease when about 7 years old. The lady who accompanied the lad (the patient's aunt, I believe) was at that time a student at medicine, and related the following history:

The boy's father is a captain of a coasting-schooner, and in excellent health; the mother has always been feeble,—borne several children, all of whom, with the exception of our patient, are well and robust,—but has not been afflicted with any special disease. Joel, from birth on, was weak, with sundry outbreaks, from time to time, of scrofulous symptoms. In his seventh year he was noticed frequently to scratch himself, and upon investigation small papules, which felt like shot under the finger, were discovered on his trunk, arms, and legs. In a short while the disease increased, the papules became more numerous, the itching constant and more severe; the child tore his skin in his efforts to mitigate his suffering. Physicians were consulted, but the disease was obstinate and resisted all attempts at cure. The nutrition of the patient was interfered with, his sleep was restless, at times sleep was impossible, and thus the case continued—worse in winter, better in summer—until it passed into my hands.

A careful examination at that time (March, 1879) resulted as follows. The lad was small in size for a boy of his age, thin, cachectic-looking; digestion and the other alimentary functions were poorly performed; his sleep was much disturbed; head large; intellectual face and forehead; bright, active mind; large, intelligent eyes; enlarged lymphatic glands in the axillæ, neck, and inguinal region. Scattered over the surface of the chest were numerous papules, slightly raised, pink or pale-red in color, hard to the touch, many of them covered with blood-crusts of variable size and configuration. The papules did not exceed $\frac{1}{4}$ " diameter, and felt like circumscribed, firm,

minute tumors in the skin. These same lesions existed abundantly over the extensor surfaces of the forearms and legs and thighs. Those papules not covered with blood-crusts presented a covering of rough, dry epithelium, and between the lesions the skin was harsh and dry,—when scraped, showering minute scales, and when pinched up it felt in many places like thick parchment or an incipient scleroderm. The itching was intolerable, constant, and harassed the patient night and day. Here and there, where previous lesions had existed, were discolorations of the skin, variable in size and color, the predominant pigmentation being of a light brownish-yellow hue. In the general history I neglected to state that a careful examination of the urine failed to show any abnormal condition save the presence in the field of a few dumb-bell crystals of the oxalate of lime. I next inquired what treatment had been pursued from time to time, and I learned that almost every physician (in the seven years of B.'s illness he had consulted many of the most prominent in this city, and who, should they see this paper, will at once recognize the patient) had endeavored to improve the general health of the patient by animal oils, iron, iodine, regulation of diet, exercise, etc., and accordingly I placed him upon a generous, good diet, cod-liver oil, and proper exercise. Concerning external applications, almost everything usually applied in chronic exudative diseases had been used, with the exception of sulphur ointment, which was certainly singular. I ordered sulphur ointment with carbolic acid to be applied twice daily over the thickened skin and the papules, preceding the application by a hot bath. The formula used was the following:

R Ungt. sulphuris, ʒiv ;
Acidi carbolici, gtt. xl.
M. Ft. ungt.

Sig.—Apply twice daily.

I saw the case at intervals of three days, and in two weeks from the time this treatment was instituted the papules had almost entirely disappeared, no blood-crusts remained, the patient's health had improved, the urine was free from the oxalate of lime. Hebra's prurigo buboes—for such I believe the glandular enlargements to have been—were much diminished in size. The case remained under my care until the winter of 1880–81, since which time I have not seen him. A few papules reappeared as the winter of 1879–80 approached, but they speedily disappeared upon resumption of the sulphur ointment. The same may be said of the winter of 1880–81.

This case was unquestionably a case of *prurigo*. The many physicians who were consulted were unanimous in this diagnosis, and I may add that the absence of pediculi and their characteristic punctated papules excluded phtheiriiasis; so, likewise,

the presence of papules, the thickened skin, the constant, intense itching, the age of the patient, and the long duration of the disease, excluded pruritus.

Last summer I was afforded an opportunity to examine some beautiful slides illustrating skin diseases, brought to this city by a medical friend from Vienna. Among them was a section of a papule and surrounding skin from a case of prurigo. In this section there was marked hyperplasia of all the cutaneous structures, especially the papillæ, which were infiltrated with cellular elements resembling embryonal connective-tissue corpuscles, and a great preponderance of formed connective or fibroid tissue in and around the papillæ of the skin. The pigment-cells were enlarged, and the rete swollen. It had a succulent appearance. The slide did not exhibit any of the cutaneous glandular apparatus. The epithelium was wrinkled. Several of the papules, especially those over the extensors of the forearms, were very obstinate; but the application of pure carbolic acid to their surface exerted a beneficial influence.

528 FRANKLIN STREET, PHILADELPHIA.

EFFECT OF AN OVERDOSE OF PODOPHYLLIN—AMOUNT TAKEN ABOUT SIXTY CENTIGRAMS (TEN GRAINS).

BY PROF. D. W. PRENTISS.

MRS. H., aged about 45 years, a strong, healthy person, had been constipated for a week, and was feeling badly in consequence. Her husband was in the habit of taking podophyllin for constipation, and had a bottle of it in the house. Mrs. H., knowing this circumstance, got the bottle, and took out as much of the medicine as could be held on the handle of a teaspoon, mixed it with a little water, and swallowed it. The dose was taken April 9, at 5 P.M.

At 7 P.M. had cutting pains on both sides of the abdomen, with desire for stool.

At 8 P.M., feeling very badly, went to bed. The pain had ceased; there was great exhaustion, with relaxed muscles and a feeling as though the body was bathed in sweat, which it was not; then came a fearful pain in the occiput, as "though the head was being split open." This pain lasted about two minutes, and was followed by a dull throbbing ache and feeling of heaviness, so that the head could not be raised from the pillow. At 8.30 o'clock vomiting began,—first the contents of the stomach, then thin, bitter, dark-green fluid,—from half a pint to a pint at each at-

tack. There were six or seven spells of vomiting between 8.30 o'clock and 4 o'clock the next morning. With each spell of vomiting the bowels moved,—first constipated, then thin, watery stools, but no blood. There was no pain with the stools. Frequent sensations of heat passing over face and head were noticed. With each occasion of vomiting the exhaustion was so great that she felt as though dying. Could not raise the head or assist in the act of emesis.

I was called to the case at one o'clock in the night,—eight hours after the podophyllin had been taken,—when I found the patient in a state bordering on collapse: features pinched, extremities cold, pulse very feeble. Administered hypodermic injection of morphia sul. i centigram (gr. $\frac{1}{4}$), atropia sul. $\frac{1}{2}$ milligram (gr. $\frac{1}{16}$), and followed it by sherry wine and lime-water, equal parts, small tablespoonful every fifteen minutes. Also left some morphia and atropia powders as above, to be taken every two hours if required. Hot applications to abdomen and extremities. There were two attacks of vomiting in the night after my visit, but much less severe, and on the morning of the 10th of April the patient was all right again, except the exhaustion. Ordered the following prescription:

	Grams.	Decimal.
R Sodii bicarb.,	3	00
Bism. subcarb.,	6	00
Tr. opii deod.,	3	00
Spts. lav. co.,	12	00
Glycerinæ,	12	00
Aquæ,	ad 100	00

M. S.—Tablespoonful every four hours.

At my visit the following morning I had the bottle of podophyllin brought and the spoon which had been used in taking out the dose, and, under the direction of the lady, measured out an amount similar to that which had been taken. It weighed sixty centigrams.

It is remarkable in this case that there should have been so little pain in the stomach and bowels. This was almost entirely absent, with the exception of occasional cutting pains at the first. On the contrary, there was a disposition to drowsiness. The greatest distress was from the exhaustion and the pain in the head. The intellect was unimpaired; the eyesight and pupils were unaffected; no involuntary discharges.

When used in therapeutic doses, podophyllin is slow to operate, requiring from eight to twelve hours. In this case its effect was first observed as soon as two hours after it was taken, and vomiting and purging occurred in three and a half hours.

Mrs. H. kept her bed on the 10th, but got up on the 11th, feeling well, but with tingling in the extremities and weak as from a severe illness.

TRANSLATIONS.

A FATAL CASE OF PELIOSIS RHEUMATICA.—Dr. Lange reports (*Deutsche Med. Zeitung*, February, 1882) the following interesting case. A soldier, 20 years of age, pale but well developed, and usually of good health, noticed an eruption upon his legs and feet, appearing suddenly, without warning or prodromata. The posterior portions of the thighs were first invaded by blotches, from the size of a lentil to a thaler, slightly elevated above the skin, of a decided dirty-red color, and not disappearing on pressure. The parts attacked, especially the ankle-joints, were swollen and painful, but the general condition was at first but little affected, and the temperature was not elevated until the following day, when 38.8° C. was recorded. The patches now became a bluish-red, and there was swelling and redness of all of the upper extremities, including the shoulder-joints; the elbow-joints were the most painful. During the next two days the appetite was lost, the swelling became still more marked, while the fever also increased (39.3°). On the fourth day, when the swellings of the joints in the legs were subsiding and the patches fading, new ecchymoses appeared upon the thighs and the back. At the same time the patient's voice became hoarse, he expectorated mucus freely, and râles were heard in both lungs; the fauces and palate now began to swell enormously, and became of a purple color, but the gums were not affected. The following day the tumefaction of the neck had been decidedly reduced by ice-applications, and the swelling of the left arm was rather less. The patient coughed up a considerable quantity of thin, frothy, red-tinged mucus. The fever remained quite high, in spite of salicylic acid. On the next day, upon the left elbow were observed a few small red spots; those upon the back of the left foot were now of a violet color, and the inner aspect of each arm was livid. The patient since the preceding day had expectorated about two hundred and fifty grammes (eight ounces) of a clear red, frothy blood; in short, signs of double pneumonia appeared, and two days later he died from respiratory and cardiac paralysis. During the entire course of the disease there was no bleeding from the nose, gums, or bowels, and the urine did

not contain blood. Before death bloody effusion occurred under both conjunctivæ.

The autopsy showed effusion of a considerable quantity of yellowish-red, almost orange-colored fluid into both pleural cavities; the lower part of each lung was consolidated, and the bronchial mucous membrane here and there congested and covered with dark-red mucus, which occluded the finer bronchioles. The mitral and semilunar valves showed some evidences of former inflammation, but they were competent. The liver and kidneys were pale, the spleen small, and the capsule shrunken. In the gastric mucous membrane there were a few ecchymotic spots; there were none in the bowel, although the small vascular twigs were visible in the serous investment. Upon the general integument there were a number of spots, some violet and others of a greenish-yellow color.

The author considers the condition of the cardiac valves as indicating old rheumatic inflammation. The occurrence of the joint-inflammations coincidently with the skin lesions suggests their relationship, and he concludes that this was an instance of peliosis rheumatica. Opposed to the view of its having been scorbutic are the facts that many of the symptoms of scorbutus were wanting, and that among the soldiers in the barracks, living under the same conditions as the patient, there occurred not a single case besides.

[It is interesting to note in this connection that Dr. E. Finger reported three cases of urethritis, which were complicated with cystitis and purpura rheumatica, in the *Wiener Med. Presse* for 1880. In all three cases both complications came on suddenly in the third or fourth week of the urethritis; indeed, in two they appeared simultaneously. Both the processes similarly were relieved, and after a certain time each showed an exacerbation. Finger contends that in these cases a true reciprocal relationship is seen to exist between cystitis and purpura rheumatica considered as a complication of urethritis, and explains the appearance of the affection of the skin as a consequence of the sympathy between the skin and the sexual organs, well known as existing, especially in females.—Tr.]

THE NURSE-REGISTRY BUREAU OF THE COLLEGE OF PHYSICIANS goes into active operation May 15, 1882.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MAY 6, 1882.

EDITORIAL.

THE AWARD OF THE PHARMACOPŒIA.

HAVING come into possession of a series of documents concerning the award recently made, by the Committee of Revision, as to the publication of the new edition of the United States Pharmacopœia, we desire to call the attention of our readers to the subject, for several reasons, but chiefly because a resolution has been offered in the committee to expunge from the minutes and the official records "all circulars relating to this matter, with the exception of the report of the committee as first submitted, and the vote thereon."* There can be but little doubt that this resolution will be carried, as it is very natural that those who have acted in the matter would like, if possible, to cover all traces of their footsteps. It may be that some of the committee will consider the publication of such of these records as seem to us vital as a breach of confidence; but certainly public opinion as well as the law will justify our belief that this committee is not a private but a public representative body, responsible for its acts to the Convention which originated it, and, in the absence of that Convention, to the medical profession which appointed the members of the Convention. It is asserted that by the action of the committee the general medical profession of the country has been wronged out of thousands of dollars in order that the money may be put into the pockets of a single individual; and assuredly the general medical public

has a right to know whether these assertions are well founded, even if one of the committee be a professor in Harvard University, and the chairman of the committee be in the employ of the publisher who it is supposed will be enriched. It is still more apparent that the general profession has a right to know the facts of the case, when it is further remembered that it has been openly boasted that at a champagne supper held on the eve of the Convention the Boston members were brought into a combination with the New York delegation to control the Convention in order to prevent the publication of the Pharmacopœia in Philadelphia and acquire it for New York.

At the Convention the writer of this editorial stated, what he now reiterates, that it was the good of the whole country and not that of a city that he was seeking for, and that the Philadelphia delegation went to the Convention without arrangements for joint action: if the award of the publication had been honestly made according to the instructions of the Convention, he believes the Philadelphia delegation would have cheerfully acquiesced, wherever the book had been published. To make the Pharmacopœia what it ought to be, to give it the completeness, promptness of publication, and indisputable authority it ought to have, one or more paid pharmaceutical chemists should be continuously working upon its processes; and the possession of a large permanent fund in 1890 is what might have been expected had the committee, as they were directed to do by the Convention, awarded the contract to the publishing house offering the best terms. With this prelude, we proceed directly to the story, which we shall tell chiefly by printing official documents, giving only the thread necessary to bind these circulars into a united whole.

When the MSS. of the new Pharmacopœia approached completion, a sub-

* Circular 130, offered by O. A. Wall, seconded by Oscar Oldberg, dated before the final vote was taken: of course there was no private arrangement beforehand to have the record made clean.

committee was appointed to consider the matter of award. This sub-committee was composed exclusively of New York and Boston men, with the exception of one Philadelphian, who it was generally known would in all probability be unable to attend to the duties, for domestic reasons. The chairman of the general committee selected this gentleman, knowing that on account of sickness in his family he had attended none of the previous meetings of the committee, and notwithstanding he was asked by one of the general committee to appoint an active Philadelphian who could attend the meetings. Of course he did not do this because he wished a committee that could be manipulated although Philadelphia should seem to be represented; but simply out of the general goodness of his heart.

A form of specifications and contract was drawn up by the sub-committee, requiring that the bids should offer a copyright percentage and a guarantee of the sale of a certain number of copies during the first year. An utterly insufficient penalty was affixed to the failure of the favored publisher to fulfil his guarantee: so that the sub-committee can blame no one for believing that the provision was put in for the purpose of giving the power to the sub-committee of awarding the contract by favoritism, by affording a cover under the phrase "best terms" used in the instructions given at the Convention.

By request of the sub-committee, the following resolution was also agreed to by the whole committee:

"That the Committee of Revision and Publication accept such bids as may be approved by its sub-committee on copyright, and that the said sub-committee be authorized to make a contract in the form herewith submitted, and are thereby empowered to transact in behalf of said Committee on Revision and Publication all business growing out of said contract."—*Circular No. 108.*

The sub-committee met, received bids, and awarded the contract. They then asked for the confirmation of their award

by the general committee in a remarkable circular, in which almost every important fact bearing upon the case was suppressed, except the names of the bidders, even the terms of the successful bidder not being given, and they "asked the indulgence of the general committee," that secrecy might be used about the principal part of the contract,—on the ostensible ground of otherwise injuring the commercial interest of the favored publisher. Under these circumstances, were not the committee composed of such honorable men as Dr. Amory, Prof. E. S. Wood, Dr. Piffard, and T. Doliber, the suspicion would naturally arise that the attempt was to insure secrecy in order to prevent any criticism and allow the general medical profession to think the award had been honestly given to the responsible publisher who offered the highest terms therefor. Wicked and unwarrantable as it may seem, human nature is such that this suspicion is not lulled by the fact that Dr. Amory sent out a second circular denying information on the ground that he could not give it except from memory, although he knew that an official record had been kept and was accessible to him as chairman.

Secrecy could not, however, be maintained. In a very short time two circulars were sent, signed by various members of the general committee, demanding information, and the postponement of the vote until such information was obtained. At the same time, or shortly afterwards, a protest was sent by the five unsuccessful competing firms of publishers, which we print in full on account of its brevity, and, to do no injustice, also append the official replies to it of Mr. Charles Rice and William Wood & Co.:

The undersigned respectfully request that your assent to the award of the contract for the publication of the United States Pharmacopœia made by your sub-committee be withheld until all the bids be submitted for your examination, and until provision is made for compliance with the instructions of the Pharmacopœial Convention.

Those instructions were :

"I. *Resolved*, That the Committee of Revision and Publication be instructed to award the publication of the United States Pharmacopœia to the publishing-house offering the best terms, the committee to hold the copyright, the price of the book to be limited, and the book to be sold through the ordinary trade channels.

"That action under this resolution shall require the approval of a majority of the whole committee."

Your attention is especially called to this matter because :

FIRST.—We have every reason for presuming that the contract was not awarded to the bidder offering the best terms.

SECOND.—Some of the bids were not even opened.

THIRD.—In defiance of all usage when competition is publicly invited, the competing bidders were excluded from the room as each bid was opened, and were refused all information as to the successful or other bids.

FOURTH.—It was stated that the sub-committee did not intend to make known to your committee the nature of the bids tendered, in confirmation of which all bids but one were returned to the bidders, two of them at least being unopened.

FIFTH.—The form of contract submitted to the bidders did not conform to the instructions of the Convention, inasmuch as it contained no clause stipulating that the book should "be sold through the ordinary trade channels."

SIXTH.—That a member of your committee requested that this clause should be inserted, and this request was refused by one of the framers of the document who happens to occupy the position of editor of a periodical published by the successful bidder.

SEVENTH.—That it would seem from these circumstances that the successful bidder was apprised of the intention of your sub-committee to disregard the instructions of the Convention, a knowledge withheld from other bidders, which enabled him so to form his bid as virtually to secure the award in advance.

EIGHTH.—That the sub-committee, in its laudable desire to secure as large a sale as possible for the work, and in its disregard of the instructions of the Convention, that the work should not be sold by canvassing, apparently adopted a fallacious test between the several bids,—viz., the amount of copy-money on sales guaranteed for the first year of publication; for, in sales by canvassing, the whole market is substantially exhausted in about a couple of years, after which it no longer pays to canvass with energy, while parties desiring the work cannot obtain it through their booksellers, and in many cases are obliged to forego its acquisition. As a "subscription-book" it thus will be virtually out of the markets in two or three years: so

that the promise of a large sale during the first year is purely illusory.

NINTH.—Thus, in addition to the manifest irregularity which has marked the proceedings of your sub-committee, its award is one which violates the instructions of the Convention, disregards the pecuniary interests of your committee, interferes with the permanent circulation of the Pharmacopœia, is not in accordance with the interests and convenience of practitioners of medicine and pharmacy.

In conclusion, the undersigned desire to enter a protest against the treatment to which they have been exposed at the hands of your sub-committee, and claim that these several bids in detail be submitted for the consideration and action of the entire committee.

HOUGHTON, MIFFLIN & CO., Boston.

HALL & WHITING, Boston.

J. B. LIPPINCOTT & CO., Philadelphia.

HENRY C. LEA'S SON & CO., Philadelphia.

PRESLEY BLAKISTON, SON & CO.,

Philadelphia.

April 20, 1882.

DEAR SIR,—A circular signed by five of the firms who competed for the publication of the U. S. Pharmacopœia, and a copy of which has been shown to the undersigned, contains the following two passages :

"A member of your committee requested that this clause should be inserted [namely, "that the book should be sold through the ordinary trade channels"], and this request was refused by one of the framers of the document, who happens to occupy the position of editor of a periodical published by the successful bidder."

"*Seventh*.—That it would seem from these circumstances that the successful bidder was apprised of the intention of your sub-committee to disregard the instructions of the Convention, a knowledge withheld from other bidders, which enabled him so to form his bid as virtually to secure the award in advance."

These paragraphs appear to be aimed at the undersigned, who, however, was not one of the "framers" of the document. His attention had been drawn, by one of the Philadelphia members, to the fact that the words "to be sold through the ordinary trade channels" were not in the contract, and he promised to see that the seeming mistake was corrected. On carefully going over the document, he found the case provided for by the words "and that the trade shall be kept fully supplied." He so notified the member in Philadelphia, and, as no reply was received, the statement was deemed sufficient. Nobody can interpret those words otherwise than that the book should always be openly for sale at dealers'.*

* If this be correct, what objection could there have been to the use of the terms prescribed by the Convention? The words do not mean the same thing. It is simply a question of discounts: the trade may be supplied, but no discounts be allowed except to the canvassers, when, naturally, "the trade" will not accept the supply.

As to the seventh paragraph, if it was aimed at him, the undersigned considers the insulting insinuation unworthy of consideration or reply.

Very respectfully,

CHARLES RICE.

NEW YORK, April 11, 1882.

[Circular 127.]

CHAS. RICE, Ph.D., Chairman, etc.

Our attention having been called to a circular addressed to the Committee on Revision and Publication of the U. S. Pharmacopœia, and signed by Messrs. Houghton, Mifflin & Co., and others, we beg leave to say that the statements contained in the paragraph marked "seventh" are wholly untrue and without foundation in fact. We further beg leave to state that the words in the contract "keep the market fully supplied" are and were understood by us to be equivalent to the expression "be sold through the ordinary trade channels," and that this understanding was made known to the sub-committee on copyright prior to the execution of the contract; and, further, we desire to add that we propose to use every available means to push the sale of the work.

Respectfully yours,
WM. WOOD & CO.

NEW YORK, April 13, 1882.

It became evident that the doings of the sub-committee must be dragged into the light, and several official circulars soon appeared. Of these, two cover the whole ground, and we first print that signed by Dr. Piffard, omitting from it those portions which are a personal attack upon Dr. W. S. W. Ruschenberger and of no general interest, as we have omitted Dr. Ruschenberger's circular, which Dr. Piffard believes reflects upon him.

The recent communications of Dr. Ruschenberger, questioning the ability and integrity of Dr. Robert Amory, Dr. E. L. Wood, Mr. Thomas Doliber, and the undersigned, are at your hand. With the past before you it is for you to judge whether Dr. Ruschenberger has or has not acted in a becoming manner and in one calculated to advance the true interests of the work in which we are associated, which interests I conceive to be the preparation of a good Pharmacopœia and provision for its extensive circulation. This the undersigned interpreted to be the sense and desire of the National Convention of 1880, and firmly believes to be the wish of the Committee of Revision. With these views he accepted the position of a member of the sub-committee on copyright.

This sub-committee met and awarded the

copyright to Messrs. William Wood & Co., on a basis of 10% copyright and a guaranteed sale of 11,000 (eleven thousand) copies during the first year. Having done so, the sub-committee reported the fact of the award, and asked the approval of the general committee, as it would be gratifying to them to be made aware that their course was satisfactory to a majority of the general committee. Confirmation of their course was not deemed necessary, in view of the result of the votes on Circular 108.

The course of the sub-committee has been disapproved by one of the Philadelphia members of the general committee in terms that need not be recited, and by the non-successful competitors in a printed circular which is before you, inviting your attention to the matter for nine specified reasons.

Before considering these reasons in detail, it will be necessary to lay before you the bids and terms offered by the several competitors.

They were as follows:

Messrs. Hall & Whiting, of Boston: 15% copyright on first 15,000 sold, and 20% copyright on subsequent sales, a guarantee of 15,000 copies of the book to be sold the first year, the price of the book to be \$3.75. This would have yielded \$8437.50.

Messrs. Houghton, Mifflin & Co., of Boston, offered to give one-half profits, no specific copyright, and no guarantee of sales.

Messrs. H. C. Lea's Son & Co. of Philadelphia: 30½% copyright on guarantee of 4000 copies sold at \$4, yielding \$4880.

Two additional bids from same; contents unknown.

Messrs. P. Blakiston, Son & Co., of Philadelphia: 26% copyright on 3000 copies, yielding \$4160.

Messrs. J. B. Lippincott & Co. offered 41% copyright and guaranteed sale of 2000 copies at \$4 (= \$3280), or 34% copyright with guaranteed sale of 5000 copies at \$4 (= \$6800).

Messrs. Wm. Wood & Co. offered 10% copyright and guaranteed sale of 11,000 copies at \$4 (= \$4400).

The foregoing, tabulated and abbreviated, is as follows:

	Copyright.	Guaranteed sale.	Total.
H. & W.....	15%	15,000	\$8437.50
H. M. & Co.....	not specified.	not specified.	unknown.
H. C. L. S. & Co.....	30½%	4000	4880
P. B. S. & Co.....	26%	3000	3120
J. B. L. & Co.....	41%	2000	3280
" " " " " " " "	34%	5000	6800
Wm. W. & Co.....	10%	11,000	4400

The nature of the bids having been stated, I proceed to discuss the points contained in the publishers' circular.

"FIRST.—We have every reason for presuming that the contract was not awarded to the bidder offering the best terms."

With the bids before them, each member of the general committee can form his own opinion as to whether the "best" bid was accepted

or not. The "best" bid was not necessarily the highest, else the one offered by Messrs. Hall & Whiting would have doubtless been accepted. This firm is not, so far as the undersigned could learn, engaged in the business of publishing medical books,—in fact, is a house of which he had never previously heard. Their offer to sell 15,000 copies was so much in advance of houses who have been long established in the medical and pharmaceutical publishing trade, and who may be supposed to be familiar with all the avenues and outlets for books of this class, that the undersigned did not deem it probable that the house first mentioned would find themselves able to distribute the specified number of copies. This may or may not have been an error of judgment on his part.

In this connection it may be stated that the representative of one of the competing Philadelphia houses said in substance to the undersigned that a bid of extraordinary character might be expected from a firm not well known in the medical publishing trade, and which bid was to be made in the interest of a house whose principal business is the sale of drugs,—that said house desired the control of the Pharmacopœia as a means of advertising their wares, and perhaps of pushing certain drug specialties. The undersigned may state that there are no facts in his possession connecting the house of Hall & Whiting with this matter; and the incident is mentioned solely to point out one of the dangers that the committee had to guard against.

The tender of Messrs. Houghton, Mifflin & Co. was in such a form that the sub-committee did not feel that they could, under the circumstances, properly award the contract to them.

This reduced the choice to one of five bids. Four of these represented high copyright and comparatively small sales, the other the usual copyright and large sales.

In comparing these, it was clear that the $26\% \times 3000$ bid of Messrs. P. B., Son & Co., and the $41\% \times 2000$ bid of Messrs. J. B. L. & Co., could not from any point of view be regarded as more desirable or better than the remaining three, namely, the $30\frac{1}{2}\% \times 4000$ of Messrs. H. C. L. S. & Co., the $34\% \times 5000$ of Messrs. J. B. L. & Co., and the $10\% \times 11,000$ of Messrs. Wm. W. & Co. There appears to be no valid reason for regarding the bid of Messrs. Lea better than or equal to that of Messrs. Lippincott. This narrowed the choice to the bid of the latter, which guaranteed a gross payment of \$6800, with a sale of 5000 copies, and the bid of Messrs. Wood & Co., which guaranteed \$4400 and a sale of 11,000 copies. In other words, would the excess of \$2400, or the additional sale of 6000 copies, best promote the interests of the Pharmacopœia, or best meet the views of the general committee? When the ballot was taken on this point, it was found to be unanimous and

in favor of the bid offered by Messrs. Wm. Wood & Co. The undersigned is still of opinion that the accepted bid is the one that on the whole must be regarded as the most desirable.

"SECOND.—Some of the bids were not even opened." The representative of Messrs. H. C. Lea's Son & Co. presented three bids, and in doing so requested that one of them, which was specified, should be opened first, and that the others should not be opened except in the event of a certain contingency. This contingency did not arise, and the two bids were returned unopened to the gentleman who presented them, who received them in this condition without protest.

"THIRD.—In defiance of all usage when competition is publicly invited, the competing bidders were excluded from the room as each bid was opened, and were refused all information as to the successful or other bids." Each competitor was in the room when his own bid was opened and examined (except in the case of Messrs. Blakiston, whose representative, if they had one, did not make himself known to the committee), in order that he might explain any points in connection with his bid, or make any additional statements. The members of the committee, or at least the undersigned, refused to divulge any of the bids except with the consent of the parties interested, supposing that each competing house had in their bids gauged their ability to sell the work in question, and that they were not desirous of having their own estimates on this point opened broadcast. The committee, I conceive, had no other object in concealing the nature of the different bids. The publishers complain of this secrecy, and this complaint must be taken as reason that the undersigned has afforded the desired information in the early part of this paper.

"FOURTH.—It was stated that the sub-committee did not intend to make known to your committee the nature of the bids tendered, in confirmation of which all bids but one were returned to the bidders, two of them at least being unopened."

I do not know by whom "it was stated," and I was not aware that such a statement had been made. The matter of the "unopened" bids has already been referred to.

"FIFTH.—The form of contract submitted to the bidders did not conform to the instructions of the Convention, inasmuch as it contained no clause stipulating that the book 'should be sold through the ordinary trade channels.'" The contract was drawn by legal counsel presumably competent, and it was supposed that the phrase "keep the market fully supplied" was in this connection equivalent to the words quoted by the publishers. If such is not the case, it is unfortunate that it was not discovered by those interested in time to have made the necessary changes.

As a matter of fact, there was an express understanding and agreement between the sub-committee and Mr. Wm. H. S. Wood, representing the house of Wm. Wood & Co., that the book should "be sold through the ordinary trade channels" as well as by such other means as he saw fit to employ.

"SIXTH.—That a member of your committee requested that this clause should be inserted, and this request was refused by one of the framers of the document, who happens to occupy the position of editor of a periodical published by the successful bidder." The undersigned presumes the other members of the sub-committee were unaware of the request above referred to. He believes that there must be some misunderstanding on this point. At all events, the instructions of the Convention appear to the undersigned to have been amply complied with in the contract that was signed, and in the further verbal agreement made at Boston, April 3, 1882, prior to the execution of the contract.

"SEVENTH.—That it would seem from these circumstances that the successful bidder was apprised of the intention of your sub-committee to disregard the instructions of the Convention, a knowledge withheld from other bidders, which enabled him so to form his bid as virtually to secure the award in advance."

The undersigned is unaware that it was the intention of any member of the sub-committee to disregard the instructions of the Convention, and is still unaware that they have done so.

"EIGHTH.—That the sub-committee, in its laudable desire to secure as large a sale as possible for the work, and in its disregard of the instructions of the Convention, that the work should not be sold by canvassing, apparently adopted a fallacious test between the several bids,—viz., the amount of copy-money on sales guaranteed for the first year of publication; for, in sales by canvassing, the whole market is substantially exhausted in about a couple of years, after which it no longer pays to canvass with energy, while parties desiring the work cannot obtain it through their booksellers, and in many cases are obliged to forego its acquisition. As a 'subscription-book' it thus will be virtually out of the market in two or three years, so that the promise of a large sale during the first year is purely illusory."

The undersigned is not aware that the Convention directed "that the work should not be sold by canvassing." The assumption that "parties desiring the work cannot obtain it through their booksellers" is false in view of the facts already cited.

"NINTH.—Thus, in addition to the manifest irregularity which has marked the proceedings of your sub-committee, its award is one which violates the instructions of the Convention, disregards the pecuniary interests

of your committee, interferes with the permanent circulation of the Pharmacopœia, is not in accordance with the interests and convenience of practitioners of medicine and pharmacy."

The undersigned fails to perceive any irregularity in the proceedings of the sub-committee, or that it has violated the instructions of the Convention. In the absence of any specific instructions from the general committee regarding their "pecuniary interests," the sub-committee assumed that they would be in harmony with their own personal feelings in this respect, namely, that the thorough introduction and distribution of the new Pharmacopœia was more desirable than the additional one hundred dollars *apiece that might accrue to the individual members of the committee* by the acceptance of the bid of Messrs. J. B. Lippincott & Co.

Concerning the "permanent circulation" of the Pharmacopœia there may be two opinions. There are those perhaps who believe that Messrs. J. B. Lippincott & Co., weighted with a copyright of 34% and an additional trade discount, to say nothing of an entangling alliance with the U. S. Dispensatory, would or could sell more copies than a firm, so far as known, equally energetic, but who were subject only to the usual trade conditions. There are those, I feel assured, who believe the contrary.

The sale of the Pharmacopœia during the second and subsequent years, in the absence of specific contract as to the number to be sold, would naturally depend on the ability and willingness of the publisher to push its sale. The larger the margin of direct profit, the greater the stimulus to sell. The larger the margin of possible profit, the greater the inducements that can be offered to prospective purchasers by the seller. By this simple business test the prospective sales of the Pharmacopœia may in a measure be estimated. Whether the ownership of a dispensatory would be likely to increase the willingness of the publisher to push the sale of a competing work on which there would necessarily be but a small margin of profit (if this bid of J. B. L. & Co. had been accepted), is a matter on which each member of the general committee can readily form an opinion.

"In conclusion, the undersigned desire to enter a protest against the treatment to which they have been exposed at the hands of your sub-committee, and claim that these several bids in detail be submitted for the consideration and action of the entire committee.

"HOUGHTON, MIFFLIN & Co., Boston.

"HALL & WHITING, Boston.

"J. B. LIPPINCOTT & Co., Philadelphia.

"HENRY C. LEA'S SON & Co., Philadelphia.

"PRESLEY BLAKISTON, SON & Co., Philadelphia.

"April 10, 1882."

The undersigned cannot but enter a protest against the marked discourtesy with which Dr. Ruschenberger has treated many of his colleagues of the general committee during the past two years, as well as against the incorrect statements and unwarranted insinuations contained in the circular signed by the competing publishers.

The "claim" to have the "several bids in detail submitted for the consideration and action of the entire committee" is complied with to the best of the writer's ability in the present circular.

In conclusion, he would remark that he believes the action of the sub-committee on copyright to be in conformity with the expressed instructions of the Convention of 1880, and with the views of the majority of his colleagues of the general committee. If he is mistaken on these points, he hereby pleads guilty to serious error of judgment.

Respectfully yours,

(Signed) HENRY G. PIFFARD,
Of the Sub-Committee on Copyright.

This circular was replied to by Prof. Remington, of this city, as follows:

April 17, 1882.

MR. CHAS. RICE, Ph.D., Chairman, etc.:

DEAR SIR,—The Committee of Revision and Publication have at last been put in possession of *some* of the secrets which were held by the sub-committee, through the communications of Drs. Amory and Piffard, and some light has been thrown upon the extraordinary conclusions which the sub-committee have arrived at.

Setting aside the gross personalities which deface both communications, it must be admitted that Dr. Piffard's effort especially is conspicuous for the ability which he has displayed in showing that the award should *not* have been made to Wm. Wood & Co.

In his communication we are informed "that the sub-committee awarded the copyright [contract?] to Messrs. Wm. Wood & Co. on a basis of 10% copyright [royalty?] and a guaranteed sale of 11,000 (eleven thousand) copies during the first year. Having done so, the sub-committee reported the fact of the award, and asked the *approval* of the general committee, as it would be gratifying [?] to them to be made aware that their course was satisfactory to a majority of the general committee. Confirmation of their course was not deemed necessary, in view of the result of the votes on Circular 108." Both Drs. Amory and Piffard were under the impression that the sub-committee's action in the matter was final. The resolution under which this authority is claimed recites "that the said sub-committee be authorized to make a contract in the form herewith submitted" (see Circular 108). Now, the fact is that the form submitted

was not the form that was used by the bidders. The chairman, Mr. Rice, says (see Circular 116), "The memorandum of agreement has been somewhat amended since its first issue, in accordance with the suggestions of members who voted in its favor even in the first draft; a new vote on it is therefore unnecessary." Why a vote was deemed *unnecessary* because it was amended through suggestions of members who voted in its favor even in the first draft is not apparent; and this decision of the chairman cannot be justified by any parliamentary law, custom, or usage familiar to the writer. Without intending any disrespect, I take the liberty of appealing from this decision of the chair. The memorandum of agreement *as amended*, and which was to be used by each of the bidders, should have been adopted by the general committee; and as it has never been adopted by them, I hold that the sub-committee had no authority to award a contract; for the resolution under which they claim authority distinctly notes that the said sub-committee be authorized to make a contract *in the form herewith submitted*, which proviso or stipulation was not carried out. The other part of the resolution, that the sub-committee are hereby empowered to transact in behalf of said Committee on Revision and Publication "all business growing out of said contract," falls to the ground from the fact that "said contract" is itself void for the reason stated.

In addition to this, I would call attention to the resolution passed by the *Convention* at Washington:

"*Resolved*, That the Committee on Revision and Publication [not the sub-committee] be instructed to award the publication of the United States Pharmacopœia to the publishing-house offering the best terms, the committee [not the sub-committee] to hold the copyright, the price of the book to be limited, and the book to be sold through ordinary trade channels.

"That *action under this resolution* shall require the approval of a majority of the *whole committee*."

Now, it must be apparent that the sub-committee were not invested with "full powers," as Dr. Amory expresses it, nor can the *authority* of the general committee, which must be obtained before the contract is valid, be regarded as merely "gratifying" to the sub-committee, as Dr. Piffard puts it. The reasons why the sub-committee should have desired to obtain full control of the work, as shown through the resolution of their chairman (see Circular 108), should receive careful consideration.

One fact cannot fail to escape the notice of the members of the general committee. If the communications of the two members of the sub-committee (*i.e.*, Drs. Amory and Piffard) correctly reflect the views of the whole sub-committee, it is then rendered clear that

a partisan feeling prevailed, and an intense prejudice existed against a Philadelphia publisher; and how far this feeling influenced a decision which should have been *strictly judicial* in its character, can only be conjectured by outsiders.

To pass now to a consideration of the character of the bids offered. If William Wood & Co. can sell 11,000 copies during the first year,—and William Wood & Co. do not think themselves that they can sell that many, for the supplementary after-thought agreement says, "In case they do not actually sell the number of copies hereinbefore stated," etc.,—even then their bid was not as good as that of Hall & Whiting, of Boston, who guaranteed a sale of 15,000 copies the first year and a royalty of 15%. Could this have been one of the *commercial reasons for requiring secrecy on the part of the sub-committee*? The statement that Hall & Whiting's was a better bid is from the stand-point formulated by Drs. Amory and Piffard, that the largest guaranteed sale was the particular aim of the sub-committee: they guaranteed the sale of 4000 copies more the first year than William Wood & Co., and threw in half as much again royalty,—15%, to William Wood & Co.'s 10%. Does Dr. Piffard think, because he has never previously heard of this publishing-house, and because their offer was too good, that they could not know what they were about, that this was sufficient ground for tossing their bid aside? This firm is well known in Boston, and should not have been invited by the chairman of the sub-committee to bid if they were *improper parties* to have the contract.

Now, the difference between J. B. Lippincott & Co.'s bid and Wm. Wood & Co.'s is practically admitted by both Drs. Amory and Piffard. Dr. Amory believed it to be too good, and presents a curious and erroneous calculation as ground for the belief that was in him. Dr. Piffard admits that even on the first year J. B. Lippincott & Co.'s bid would yield the committee \$2400 more than Wm. Wood & Co.'s, and presents in his first section, 24th line, page 3, the statement that, "In other words, would the excess of \$2400, or the additional sale of 6000 copies, best promote the interests of the Pharmacopœia, or best meet the views of the general committee?" *Now, mark.* "When the ballot was taken on this point, it was found to be unanimous, and in favor of the bid offered by Messrs. Wm. Wood & Co." Here is shown the point which was most weighty in deciding the principal part of the business. It requires but a few moments to show how utterly fallacious the conclusions were. Dr. Piffard fails to add to the words "6000 copies," the words, *FOR THE FIRST YEAR.* Wood's bid *only* exceeded Lippincott's in the number which he *thought* he could sell during the first year. Dr. Piffard has it, "or the additional SALE of 6000 copies." But Wm. Wood & Co. do not agree to SELL 11,000

copies the first year; they agree to *pay a royalty of 10% on that number*: so that the *greater circulation*, which in the eyes of the sub-committee was the will-o'-the-wisp which lured them on, is really not provided for at all.

That the clause requiring a guarantee of a large sale *the first year* is worthless, must be evident to every one who considers the real interests of the work. The time has passed for forcing the sale of a book that is a standard by means of the unpopular book-cannasser, particularly if the book can be had in the regular way, through ordinary trade channels, at the same price. When a customer has procured a Pharmacopœia he does not want another until a new revision, and the crowding of all of the sales, or at least the principal part of the sales, into the first year, whilst *showing large figures on paper*, really amounts to nothing at all. It is the number which can be sold during the *ten years* that concerns the committee's interests the most, and J. B. Lippincott & Co. estimate the probable sale for ten years at 15,000 copies. If more can possibly be sold, they are compelled to use every effort, for their agreement stipulates that they *must advance the sale of the work*. The difference on 15,000 (which is undoubtedly a low estimate) between Lippincott's and Wood's bid is this: *Lippincott, \$20,400 in ten years, Wood, \$6000 in ten years*, making a difference in favor of Lippincott of \$14,400.

In the case of Lippincott the *profits of publishing largely go to the committee* (and the money will be needed to perfect the work through expert labor for the next revision). In the case of Wm. Wood & Co. *the profits go to Wm. Wood & Co.*, and Dr. Piffard says in justification, "The larger the margin of direct profit, the greater the stimulus to sell." And now, if these were the views of the sub-committee, as they are supposed to be, it will be seen that the contract was awarded, *not with the view of making the best terms for the book*, but to give a *large profit to the publisher in order to induce him to sell it*. It will be no doubt a source of regret to the other publishers that they did not know in advance that they should not offer *too much* royalty, as Lippincott did, *nor guarantee the sale of too many books*, as Hall & Whiting did, but to suit the extraordinary and peculiar views of this sub-committee they should have bid exactly as Wm. Wood & Co. did, for he was neither the highest, lowest, nor best bidder in any light, *but just right*. The writer is not one of the number who believe that the sub-committee deliberately intended to act unfairly; but he believes that they were unwisely influenced in their decision.

By accepting J. B. Lippincott & Co.'s bid the committee are put in possession of a large sum of money, *instead of making it a present to Wm Wood & Co.*; and the writer, as a member of the general committee, feels indignant

at the gratuitous yet very delicately conveyed insult to the members of the committee by Dr. Piffard's remarks about the probable resting-place of the difference between the bids of Lippincott and Wood, \$2400—\$100 apiece to the individual members of the committee. The writer has the utmost confidence in the integrity and honor of the general committee, and believes *that excellent and proper use can be made of this money*, which should go into a fund under the care of a suitable committee and be employed in improving the book through expert labor in the future. Five years will soon slip around, and a supplement will be needed; besides, the regular work on revision will in the future require the expenditure of much more time and money than have been spent heretofore.

Whilst writing this, I have just been handed Dr. Castle's communication. From his conclusions I beg leave to differ. *The memorandum of agreement as voted on by the general committee, and the one which was used in awarding the contract to Wm. Wood & Co.*, did not differ, only in colons, semicolons, style of paper, and "immaterial" points, although there are enough minor alterations to invalidate it, but a *supplementary agreement was appended* without the knowledge, consent, or approval of the general committee, and, besides, *the other bidders* were not apprised that they would have an opportunity to pay the same kind of a forfeit for non-fulfilment of their contract. J. B. Lippincott & Co., for instance, if they had known that this was the *real form of agreement*, could have afforded to pay 10% on 30,000 copies instead of Wm. Wood & Co.'s 11,000, and saved money by so doing. This any member can see by a simple calculation.

This supplementary agreement is illegal, and not authorized by the general committee. It openly implies a doubt of the ability of Wm. Wood & Co. to live up to *the part of the agreement* which Drs. Amory and Piffard both assert was the ground upon which the contract was awarded; and yet a very simple calculation will show that Wm. Wood & Co. could easily afford to pay the forfeit for not fulfilling their agreement, without feeling it, out of their profits, which are prescribed as *stimulants* by Dr. Piffard.

For the reasons recited above, and for others offered by other members of the committee, the writer trusts that the general committee will vote *nay* on the motion to adopt or approve of this report and action of this sub-committee. The general committee cannot, under the vote passed at the *Convention*, delegate their duties to the sub-committee, even though a majority voted to sustain the resolution of the sub-committee on copyright in Circular 108, for the instructions of the *Convention are clear* on this point: "Action under this resolution *shall* require the *approval of a majority of the whole committee.*" So no action

can be taken to award the contract until a majority of the whole committee shall approve.

Very respectfully,

JOSEPH P. REMINGTON.

As throwing further light upon this business, we next append a circular which has been put forth by Hall & Whiting, H. C. Lea, Son & Co., and J. B. Lippincott & Co.

BOSTON, April 15, 1882.

ALFRED B. TAYLOR, ESQ., Phila., Pa.

SIR,—The bid of Hall & Whiting, of Boston, Mass., offered an author's royalty of 15% on the first 15,000, and upon subsequent copies 20% of the retail price. The suggestion was made that the retail price should be \$3.75 at the highest.

The payment of royalty on 15,000 copies was guaranteed during the first year. Appended to the contract was the following:

We herewith furnish a "dummy" showing the paper and style of binding. The paper is the nearest thing we could find ready made. We could, however, have the paper made to order, and would have it made just like any sample of paper of the grade mentioned in the contract furnished by the committee.

If the binder's boards are not considered thick enough, they shall be heavier. If the muslin is not satisfactory, we will undertake to use such as may be *quite* to the mind of the committee.

Very truly,

HALL & WHITING.

A true copy.

Attest: A. H. JACOBS.

PHILADELPHIA, April 21, 1882.

TO MESSRS. REMINGTON, MAISCH, AND TAYLOR:

GENTLEMEN,—Since our letter of the 18th inst., we have had the opportunity of seeing the defence put forward in behalf of the sub-committee of publication of the United States Pharmacopœia by two of its members, Drs. Amory and Piffard, which seems to call for some further brief remarks. It is fitting that such remarks should come from us, for we were not the highest bidders, and if the sub-committee's action should be revised we would not anticipate an award in our favor. We can therefore have no feeling in the matter save a desire for the interests of the profession with which we have so long been identified, and a sense of just indignation at having been made the sport of those who can only escape the *charge of gross partiality by putting forth pleas of utter incompetence to even understand the business which they undertook to manage.*

To extenuate the return to us unopened of two of our bids, it is alleged that this was done because we had requested that they

should not be opened "except in the event of a certain contingency. This contingency did not arise." It would only have been fair to your committee to state that this mysterious "contingency" was simply the willingness of the sub-committee to consider the advisability of putting the Pharmacopœia at a reasonable price, instead of the extravagant maximum of \$4.00 per copy. It would appear, therefore, from its own confession that the sub-committee did not even think it worth while to ascertain on what terms the book could be supplied to purchasers at the ordinary rate for such publications, and that the qualification of \$4.00 in the form of contract as a "maximum" price, so far from showing an honest desire to further the interests of the book and of the profession, was simply one of the cunningly devised traps by which that remarkable instrument was to be made the means of carrying out a foregone conclusion. As the sub-committee has manifested a curious jealousy as to a fancied rivalry between the Pharmacopœia and the dispensatories, it may be worth while here to mention that, on the basis of the amount of matter respectively contained in them, the price of the Pharmacopœia compared with the United States Dispensatory ought to be not more than \$1.47, and with the National Dispensatory not more than \$1.96. The profession thus can judge how great is the profit which they will be obliged to pay for a book indispensable to those who buy it,—a profit which, by the award of the publication to the favored bidder at the ordinary copy-money of 10 per cent., will inure to him, and not to those who have laboriously performed the work of revision.

It is admitted that Messrs. Hall & Whiting offered to pay for the first year's sales a copy-money amounting to \$8437.50; Messrs. J. B. Lippincott & Co., \$6800; H. C. Lea's Son & Co., \$4880; while the award was given to Messrs. Wm. Wood & Co., who only offered \$4400. To obscure the grossness of this favoritism, a good deal of ingenious special pleading is put forward, the substance of which is that the publishers, with the exception of Messrs. Wood & Co., do not understand their own business, and that if handicapped with the payment of an excessive copy-money they would not have sufficient margin of profit to be enabled to print the book with energy. It is an insult to the intelligence of the gentlemen composing your committee to imagine that they can be hoodwinked with sophistry so shallow. By the supplementary clause added to the contract the sub-committee itself admits, and so do Messrs. Wood & Co., that the pretended guarantee of sale is only a guarantee of copy-money: so that the publisher, whoever he might be, was simply held to pay the amount named, whether his sales should be large or small. Thus, as regards extent of sales, all were reduced to an equality, and the "best terms" at which the

contract was ordered by the Convention to be awarded are reduced to the amount of money to be paid, so long as the price of the work was thrown out of consideration. The notion, moreover, that the higher copy-money would reduce the sales is a patent absurdity. A man will work harder to save himself from a loss which stares him in the face than to gain a problematical profit. Messrs. Hall & Whiting would have to sell enough during the first year to pay your committee \$8437.50, and Messrs. J. B. Lippincott & Co. \$6800. If the sub-committee had paused to think, a slight knowledge of human nature would have shown them that here was a stronger guarantee for active work than could be looked for in Messrs. Wood & Co.'s \$4400.

The rejection of Messrs. Hall & Whiting's bid on the ground of the incompetency of that firm to manage that publication, *after they had been personally requested by the chairman of the sub-committee* to put in a proposal, is so extraordinary that it has been felt necessary to put forth a special justification for it. This is the only excuse for the innuendo by which Dr. Piffard, "in this connection," seeks to connect that house with a warning which he says he received from one of the Philadelphia competitors as to "a bid of extraordinary character" to be expected from a house supposed to represent a drug business. Dr. Piffard must know that the party alluded to is a New York concern, and, while he is careful to shield himself by stating "that there are no facts in his possession connecting the house of Hall & Whiting with this matter," this transparent subterfuge only renders more conspicuous the disingenuousness with which the affair is referred to "in this connection" to give an apparent excuse for so grossly neglecting the interests of the Pharmacopœia in refusing Messrs. Hall & Whiting's proposal.

In fact, it must be self-evident to every intelligent publisher that no one who was not morally sure in advance of the acceptance of his proposal would have put in a bid so low as ten per cent. copy-money on a work of the character of the Pharmacopœia,—a book indispensable to a large class of buyers, a book on which he was at liberty to place an extravagant retail price,—a book, in fine, which any one largely engaged in medical publication can afford to handle at a minimum of profit, or even without profit, in consequence of its bearing on the rest of his business. All these are advantages the benefits of which the sub-committee should have secured either to the profession or to those who have performed the revision. In so far as it has the power, the sub-committee has strangely thrown these benefits away. It remains for your committee to determine whether action so characterized by either partiality or improvidence shall be sustained.

HENRY C. LEA'S SON & CO.

TO THE COMMITTEE ON REVISION AND PUBLICATION OF THE UNITED STATES PHARMACOPŒIA.

GENTLEMEN,—We were one of the publishers invited to send in proposals for the publication of the new edition of the United States Pharmacopœia, with the understanding that the contract would be awarded to the party making the most favorable offer. The question of copyright then, as now, appeared to us to be the main element in a favorable offer, and we therefore, after carefully weighing all the circumstances, submitted a proposition in which we agreed to pay a royalty of 41 per cent. of the retail price (\$4.00) of all copies sold, and to guarantee a sale of 2000 copies of the work within the first year. As it occurred to us that some of the members of your committee might look upon a guarantee of a large number of sales as a more important consideration than a large copyright, we accompanied this proposition with a second one, in which we engaged to guarantee a sale of 5000 copies during the first year and to pay a copyright of 34 per cent. on all copies of the book that might be sold, as an indication of what we would be willing to do in case the question of guarantee was looked upon as an important factor. In a letter enclosed with the memorandums we called attention to the double form in which our proposal was submitted, and explained the reason.

We, as already mentioned, looked upon the amount of copyright or royalty as the main feature to be considered, for the simple reason that this is the only feature which would work any substantial difference in the results to you. *One large house can have no facilities for selling more copies than any other has. The book is one for which there exists a spontaneous demand*: it cannot be forced by any of the legitimate means known to the trade. Every possible customer for the book is already thoroughly familiar with its scope and aim, and is convinced of its necessity to himself. He does not need to have these facts pressed upon his notice. And outside of its special line of custom there could be little or no demand for the book.

For nearly forty years we have published this work, and, knowing what the sale has been in the past, we have a knowledge of the probable demand in the future (we estimate it at *from fifteen to twenty thousand copies* during the ten years of its publication), and we are of the opinion that our offer was as liberal a one as could possibly be made without actual loss to the publisher. We call your attention to the result of our bids provided the sale should reach 15,000 copies during the ten years of its publication.

Bid.—Based on the Largest Guarantee the First Year.

15,000 copies at 34 per cent. (copyright on \$4.00, say \$1.36) . . . \$20,400.00
Guarantee 5000 the first year at \$1.36 6,800.00

Bid.—Based on the Largest Copyright.

15,000 copies at 41 per cent. (copyright on \$4.00, say \$1.64) . . . \$24,600.00
Guarantee 2000 the first year at \$1.64 3,280.00

You will please note that at the ordinary copyright of *ten per cent.* (the royalty usually allowed) it would require a sale of 51,000 to equal one, and 61,500 to equal the other bid.

Very truly yours,

J. B. LIPPINCOTT & Co.

The above circular is in response to the following communication:

MESSRS. J. B. LIPPINCOTT & Co.:

The sub-committee on copyright of the United States Pharmacopœia not being able to give the various proposals for publishing the Pharmacopœia, except from memory, the undersigned would respectfully request you to communicate the particulars of your bid to the other members of the general committee.

JOHN M. MAISCH,
JOSEPH P. REMINGTON,
ALFRED B. TAYLOR.

PHILADELPHIA, April 13, 1882.

How many of the United States Pharmacopœia will be sold no one can at present foretell. Judging from the past, it is very probable fifteen thousand will be the number: if this be so, the action of the committee has transferred to the pockets of Wm. Wood & Co. eighteen thousand five hundred dollars which otherwise would have constituted a permanent fund for the maintenance of the Pharmacopœia. But twenty thousand copies may be sold in the ten years; and if so, the loss to the profession will be over twenty-four thousand dollars.* To blame Wm. Wood & Co. for getting this small fortune would be to blame a man for going into business; but surely the cat's paw that draws this noble chestnut from the fire can hardly escape burning.

The motives which led fifteen of the members of the general committee to ratify the action of the sub-committee we do not, of course, know. At any rate, it is but proper that the professions of pharmacy and medicine should know with whom the responsibility rests; and we therefore append the final yeas and nays:

* Probably it would be fair to estimate twenty thousand copies at thirty-four per cent. as the receipts if the award had been made to J. B. Lippincott & Co.,—making the probable loss to the profession of nineteen thousand two hundred dollars.

Ayes.
 Robt. Amory, Mass.
 Edwd. S. Wood, Mass.
 Thos. Doliber, Mass.
 G. F. H. Markoe, Mass.
 P. W. Bedford, N. Y.
 Fred. A. Castle, N. Y.
 L. Johnson, N. Y.
 Henry G. Piffard, N. Y.
 Chas. Rice, N. Y.
 J. F. Judge, O.
 Oscar Oldberg, Mo.
 Henry P. Parsons, N. Y.
 Albert G. Prescott, Mich.
 O. A. Wall, Mo.
 Thos. F. Wood, N. C.

Nays.
 C. Lewis Diehl, Ky.
 Louis Dohmer, Md.
 D. L. Huntingdon, D. C.
 J. M. Maisch, Pa.
 J. P. Remington, Pa.
 W. S. W. Ruschenberger, Pa.
 Emil Scheffer, Ky.
 Alf. B. Taylor, Pa.
 W. S. Thompson, D. C.

We suppose it must have been thought ere this by most of our readers, The whole of this action is illegal, and the contract can be overthrown. The first legal talent in this city has given exactly this opinion. What the Convention intended was that the committee should meet, discuss the various bids, and then accept or reject; but, instead of this, apparently under the astute manipulation of one or two men, the somewhat indifferent general committee was led formally to give the power of making a contract to the sub-committee, which it had not legal right to do, and afterwards they could not repudiate the action of this sub-committee without impugning the honesty of its members, as their instructions were plain.

Legal proceedings would in all probability set aside the action of the committee; but who is to institute such measures? The wrong has been done, not to an individual, but to the general profession. No publisher could be expected to take any active step. It is a fair question as to choice between the bid of Messrs. Hall & Whiting and that of Messrs. J. B. Lippincott & Co., and if to either of these the contract had been awarded there could have been no fair complaint. Moreover, at the offered terms there would certainly be no profit in the contract for J. B. Lippincott & Co., and probably little for the Boston firm. It is plain there is no interest at stake sufficient to warrant these publishers in instituting legal proceedings. Wm. Wood & Co. will take their booty,

and for the sake of common justice we trust that they will righteously share it with those to whom will ever attach the dishonor of its capture.

PRIVATE INSTITUTIONS FOR THE INSANE.

THE disputes between the coroner and Dr. Livingstone, of this city, and the various scandals or assertions of scandalous action that have arisen in connection with the case of Miss Grant, have called attention afresh to the subject of private institutions for the insane. The number of such hospitals in this country is very small: so that, as in the Chinese question, it is the fear of the future rather than the annoyance of the present which is the impelling motive to discussion and action. We believe there are only fourteen of these private hospitals in the whole United States, in contrast with some three hundred said to exist in Great Britain. It is hardly worth while at this date and in this place to discuss elaborately the comparative objections and advantages of such institutions as the Pennsylvania Hospital for the Insane and Burn Brae. Both classes of asylums have their proper scope, and there will always be persons who prefer one over the other. Undoubtedly any physician who desires to found a private asylum has an inalienable right to do so, and he who wishes his insane wife treated in such an institution has a right to put her there. To attempt to suppress these private asylums would be utterly wrong, and probably unsuccessful. It is, however, to our thinking, monstrous to allow any mad-house to be conducted outside of the pale of the law or without legal inspection and restriction. We are positively informed that at Burn Brae a legal certificate of insanity is required and inspection courted: so that there is no more possibility of a sane person's being confined within its walls than there is in a State lunatic

asylum. So should it be in all private asylums.

In opposition to these sentiments, Dr. Livingstone claims the right—based, he says, upon the opinions of “eminent legal counsel”—to restrain alleged insane persons of their liberty, and, *at will*, to admit or refuse entrance to their friends without the important preliminary of a sworn legal certificate. Eminent counsel may be right; possibly they may be wrong; but, whether they are right or wrong, Dr. Livingstone will sooner or later be forced to perceive that public opinion in this city and State will not tolerate such private mad-houses; and we sincerely hope that at the next session of our State Legislature a law will be enacted making the immuring of any insane person without a legal certificate a felony, and requiring all private insane asylums to be open at all times to inspection by the State Board of Charities.

In order that the exact status of private mad-houses in Pennsylvania may be properly understood, we gladly add the following, received just before going to press:

Attorney-General Palmer, in a recent letter to Mahlon H. Dickinson, President of the Board of Public Charities, says that, in his opinion, such institutions are properly subject to the visits and scrutiny of the Board of Public Charities, and believes that by the act of April 24, 1869, creating the Board, it was intended to place within its supervisory powers all charitable, reformatory, or correctional institutions within the State, which, of course, includes institutions for the treatment of the insane. In continuation, he says, “There is nothing in said act or any other act that I know of which prevents any individual from establishing a hospital for the treatment of the insane, or any other class of unfortunates, as a private business or enterprise, and I do not think such institutions are within the purview of the act of 1869. The powers of your Board are, to some extent at least, inquisitorial in their nature, and ought not to be exercised with respect to private business and property without a clear warrant of law. Such warrant I do not find in any of the statutes defining the powers and duties of the Board of Public Charities.” He holds, however, that insane asylums managed for gain or pay are not subject to the visits and scrutiny of the Board

under the act of 1869 and supplements, and is of the opinion that further legislation will be necessary to bring them within the operations of the Board.

EXAMINATIONS FOR THE POSITION OF RESIDENT PHYSICIAN IN OUR HOSPITALS.

IT is a matter of great importance to the medical schools, and especially to the medical profession of this city and of the country at large, that competitive examinations for positions as resident physicians in hospitals be so conducted that no suspicion can arise as to the fairness of the examinations. In the busy rush of professional work in March there is, however, a great tendency for the members of medical staffs to neglect their obvious duties, or so to perform them as to degrade the examination to the rank of a farce. In the University Hospital formerly almost the whole medical staff was present at the annual examinations; but of late years all have dropped off except a few less busy, more conscientious, or more tenacious than their colleagues. Fortunately, those who are present do their duty in a way most praiseworthy, as is shown by the fact that the medical examinations of each candidate this spring averaged over three-quarters of an hour, and the surgical about an hour and a half.

In some of our hospitals the neglect seems to be of a serious character. Thus, we are credibly informed of one instance in which none of the general medical staff were present, and, so far as the practice of medicine is concerned, the examination was conducted by a specialist who chanced to be on hand. It is also affirmed that a candidate received upon medical topics three questions,—What is typhoid fever? What is typhus fever? What is diarrhoea? Upon surgery also three questions,—What is the difference between concussion and compression? When would you trephine? Difference between laryngotomy and trach-

eotomy?—the examination of the man occupying (exclusive of time given to bandaging) from ten to twelve minutes.

There is a very frequent complaint that hospital managers do not pay attention to the wishes and beliefs of their medical *confrères*; but we are not sure that the medical *confrères* always deserve the respect they desire. Such an examination as that spoken of above is more than a farce: it is a fraud. It affords a strong argument for the old plan, in which the opinion of the medical staff was not asked, but managers elected the residents solely upon their own responsibility. Kissing had better go by favor than by the indiscriminate selection of the kissee on a very partial examination.

CORRESPONDENCE.

LONDON LETTER.

THERE are few diseases which have deeper interest for physician and patient alike than that group of allied maladies known as Bright's disease. Nor is the subject one to which the surgeon is indifferent: far from it. The faint cloud produced by heat or reagent in the test-tube containing the suspected urine is ominous of evil if any operation has to be performed. This ready test for renal disease—viz., the presence of albumen—is not now accepted so unhesitatingly as it has been as the criterion of renal disease or its absence. At first the presence of albumen was regarded as the proof absolute in life; the morbid changes in the kidney, the convincing evidence of the malady in the dead-house. For some time past, some writers have called in question the infallibility of the albumen test for Bright's disease; nor has any one been more outspoken in this matter than myself. It is, then, with much satisfaction I hail the appearance of a pamphlet from the able pen of Dr. F. A. Mahomed, of Guy's Hospital, entitled "Chronic Bright's Disease without Albuminuria,"—his thesis for the degree of Bachelor of Medicine of the University of Cambridge. Dr. Mahomed first became favorably known to the profession by his work on the sphygmograph; and he contributed the section on the use of this instrument to the last edition of Walshe's well-known treatise on the diseases of the heart. Then he was the resident medical officer of the London Fever Hospital, where he carried out a series of most valuable observations as to the rise

of blood-pressure in the arteries which precedes albuminuria and convulsions in the uræmic stages of scarlatina. Dr. Mahomed is regarded here as one of the most trustworthy of our rising physicians; and well he deserves his position. Recently, along with Mr. Galton, the well-known author of "Hereditary Genius," he has collected a series of photographic portraits illustrative of various forms of well-marked disease, as phthisis, for instance. Consequently he is entitled to consideration for what he has actually accomplished, as well as the promise he displays,—this last being the only claim of some young aspirants to fame, a promise which may or may not be fulfilled. A goodly number of the young men attached to the London hospitals owe their position to something they are credited with as going to be done some day; but, to judge the future by the past, the promise remains not uncommonly unfulfilled. But in Dr. Mahomed's case there is the best guarantee of future work in the shape of good work already accomplished. He commences, "That the urine in chronic Bright's disease is occasionally, or even not infrequently, free from albumen is by no means a novel observation. The object of this paper is to prove something more than that: it is to prove that in the earlier stages, and in most cases even to their final stage, the urine of what is known as chronic Bright's disease, with red granular kidney, is most commonly perfectly normal. More than this, its object is to prove that chronic Bright's disease is not a renal disease, although it frequently gives rise to renal affections, or else that another disease must be recognized, which constantly precedes and prepares the way for Bright's disease, which may be called arterio-capillary fibrosis, or any other name which may be preferred to it. For my own part, it seems preferable to retain the name 'Bright's disease' for the general condition, nearly all the pathological results of which Bright so accurately described, and to say that, though the associated changes of granular kidney, hypertrophied heart, and atheromatous arteries were all described by him, yet his interpretation of their relations and causation was not in all cases correct; that it is probably true in many cases of the acute disease, but that we have learned in time so to extend our views that we now include a much wider field when we speak of the pathology of Bright's disease than that which Bright described, though possibly not a wider one than he suspected when he insisted on the insidious character of the malady which bears his name."

It will be within the memory of many readers that some ten years ago a discussion took place between George Johnson, the well-known writer on kidney disease, on the one hand, and Sir William Gull and Dr. Sutton on the other, as to the changes in the vascular system found along with Bright's disease.

Johnson held that hypertrophy of the muscular wall of the arterioles was the change *par excellence*, while his opponents held the change to be a fibrosis of the wall of the vessel. No doubt Johnson was right about his fact in a large number of cases; but there seem grounds for the other view in other cases. Clinically one learns to recognize one variety of chronic Bright's disease where the vascular system seems to escape, while in others it is markedly affected. This by the way.

To return to Dr. Mahomed. He follows the work pursued at Guy's since Bright's death. It was as far back as 1852 that Dr. S. Wilks, the eminent pathologist, wrote on this subject, when he preferred the term "Bright's disease" to "albuminuria," "since renal disease he found might exist, and no albumen escape in the urine; and albuminuria might occur temporarily without depending upon any such lesions as Bright had described in the kidney." Especially is it in the red granular kidney that the urine is copious, clear from deposits, and usually free from albumen. Such change in the kidney is very common with persons up in years, especially those who have had gout in any of its manifestations. When albuminuria is found, it is to be attributed to obstruction in the circulation in the tufts and capillaries of the kidneys rather than through the walls of the uniferous tubules denuded of epithelium cells. The morbid change spoken of as "arterio-capillary fibrosis" is not an essentially senile degeneration, but "a chronic irritative or inflammatory change." It might or might not be found with hypertrophy of the muscular coat of the small arteries. It will, it is thought, be found to explain the various inflammations of serous and other membranes notoriously associated with chronic Bright's disease.

The two forms of kidney-change generally recognized are the "large white" and the "small red kidney." The first is found with albuminuria; the latter, usually without it. Epithelial changes in the kidney are found with albumen and dropsy essentially; the growth of interstitial connective tissue with chronic disease, without these two phenomena; while vascular or perivascular thickenings may go with either change. These last, indeed, are a general change, which is found elsewhere than in the kidney merely. High arterial tension is found before the kidneys are affected, and is the cause of the vascular changes in the little vessels to which the hypertrophy of the left ventricle is subsequent. He writes, "High arterial pressure is not a consequence but an *antecedent* of kidney disease. In the acute condition, as seen in scarlatina, the high pressure can be recognized in the pulse before (and, experience has since shown, *long* before) the kidney gives any sign of failure or albumen appears in the urine, and that treatment of this high pressure usu-

ally arrests or cures the kidney trouble; while as a chronic state high arterial pressure occurs in some persons from youth upwards, apparently marking them out for future Bright's disease, and that it is common in lead-poisoning, alcoholism, pregnancy, dyspepsia, and other conditions predisposing to Bright's disease; that it occurs in them long before there is any sign of renal failure or organic vascular changes, which probably require in most cases years to develop. It therefore follows that these chronic conditions of high arterial pressure will produce in the kidneys and elsewhere the vascular and perivascular changes of Bright's disease.

"Since it has been demonstrated that this vascular condition frequently precedes and ushers in both acute and chronic *renal disease*, and that it produces the vascular changes characteristic of Bright's disease, it follows that this general inclusive term, Bright's disease, indicates not so much a primary renal disease as a general or blood disease in which the kidney is especially liable to be attacked, though it is well known that it suffers not alone, but in company with several other organs, notably the lungs, which are almost constantly affected by bronchitis, the stomach and intestines, which suffer from catarrh, and the skin, which has catarrh of its sweat-ducts." What the skin diseases are which have as their pathological foundation "catarrh of the sweat-ducts" I do not know, nor have I here, far away amidst the mountains of South Wales, any works on skin disease at hand to determine the matter; but eczema is one, without any doubt. To follow the text: "From these considerations it follows that we have to deal with three stages of chronic Bright's disease: first, *the functional stage*, which is limited to the condition of high arterial pressure, without organic changes in either the vascular system or the kidneys; second, *the chronic Bright's disease without nephritis*, the stage of organic changes in the vascular system and in the kidney (for which, if thought desirable, the term 'arterio-capillary fibrosis' might be employed); third, *chronic Bright's disease with nephritis*, the natural but by no means the invariable termination of the disease; epithelial changes have now taken place in the kidneys, or the cirrhotic changes are extreme, and the symptoms of renal disease have become prominent."

The reader will see from this that Dr. Mahomed holds that evidences of renal change are only furnished at the later stages of the malady. Consequently, the practice of calling the test-tube into action, and putting it in the witness-box to speak as to the existence or absence of Bright's disease, is invalid, and the witness is dumb as to the earlier stages of Bright's disease: it is only when the morbid change is far advanced that this witness has anything to say. In the red granular kidney the test-tube is not usually in court at all, at

any stage, early or late. Of course these conclusions of Dr. Mahomed must be very disturbing to the shallow crowd who still make the presence or absence of albumen in the urine the test absolute of Bright's disease. But it is high time that this misplaced confidence was upset, as this narrow view tends to blind its holder to the wider-spread and more general evidences of the presence of Bright's disease, which require observation and thought for their recognition,—a much more arduous matter than the simple one of a chemical test for albumen. If these confiding individuals do feel that it is time to rearrange their views, such as they have, be the same more or less, they cannot expect much sympathy from those who have learned by the sweat of their brow that Bright's disease is something more than the presence of albumen in the urine, and that indeed in a large class of cases, notably the gouty, albumen is never present in it. There is a long antecedent stage of chronic Bright's disease before it is so gross, so palpable, as to force itself upon the consciousness, and when it can only be detected by the eye trained to look for it. The importance, however, of learning to recognize it in its earlier stages is very great, as it is then that most can be done to arrest its progress. If the medical man can only recognize it when the later stages of evidences of renal change are present, comparatively little can be done. The doctor goes on to say, "Of these stages, the third is well known: it is the form of this disease commonly diagnosed. The second is the one to which this thesis is devoted. The first appears to have every probability in its favor; but it requires years to prove it, as the cases must be watched from youth into old age." The class I have just spoken of in terms which may be somewhat offensive to them can reflect over this last quotation, and see if they like it any better than my remarks.

Now as to the actual kidney changes which go on. "The kidney of the second stage, to the naked eye, is purely red, more or less granular; the capsules will be somewhat, and perhaps extremely, adherent; the cortex atrophied little or much, the cut edges crenated, the arteries distinctly thickened, gaping, and prominent; the heart more or less hypertrophied; in some cases the kidney may look perfectly healthy; perhaps the arteries alone may look a little thick. The microscope in these cases will show thickened *membrana propria* of the tubules, thickened capsules of the Malpighian tufts, more or less intertubular fibro-hyaline thickening, the arteries thickened both by hypertrophy of the muscular and fibro-hyaline thickening of the intima, and perhaps of the adventitia; the epithelium will be normal or only a little granular, not increased in quantity. These kidneys differ from those of the third stage, inasmuch as the latter, to the naked eye, show gray or yellowish granulations in the cortex, these appearances being

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due to excessive proliferation of the epithelium of the tubes. The condition is so distinct that it is easy to recognize by the presence of gray or yellowish mottling the existence of any epithelial changes in the kidneys. These latter kidneys almost invariably give rise to albuminuria, and not unfrequently to dropsy. These epithelial changes may probably come and go at any time in a kidney of the second stage, giving rise to the numerous exacerbations and intercurrent acute attacks to which the cases are so liable." So far, this is a definite expression of opinion. He then goes on to say, "It is kidneys in the second stage, or red granular kidneys, which, in my opinion, give rise to no albumen in the urine nor any dropsy. They can be diagnosed by the cardio-vascular signs alone." Thus it is clear that in the circulatory system we are to look for the evidences of chronic Bright's disease,—viz., the hypertrophied left ventricle with the attendant loud closure of the aortic valves, and the tense artery, soon tending to become hard as the high arterial tension produces atheromatous changes.

Dr. Mahomed then explains that he has collected a series of cases upon which he relies to prove the proposition "that this [second] stage of chronic Bright's disease gives rise to no symptoms of renal failure." The cases number sixty-one in all. They were under the observation not of Dr. Mahomed himself, but of two colleagues, who had no particular axe to grind, and whose testimony is therefore quite unbiassed and impartial. "In addition to their more prominent symptoms for which they sought relief, nearly all these cases presented the following characteristics, which led to their diagnosis. They all had the signs of high arterial pressure; they all had very considerable hypertrophy of the heart, those cases only being accepted in which the apex-beat was in the nipple-line or external to it. In many the arteries were tangibly thickened; in all cases the urine was free from albumen while they were under observation. In most of the cases it was altogether free. In eleven cases albumen was present on one or two rare occasions during a long period of careful observations; this happened immediately after admission to hospital and during the time they were severely ill. In three cases, though absent during long periods of observation, it occurred just previous to death. In three other cases of typical chronic Bright's disease the patients were admitted with albuminuria, which disappeared under treatment, and they left without it. Three cases had urine very variable in its character,—sometimes albuminous, sometimes not. In the remaining forty-one cases albumen was never discovered in the urine." In seven cases hypertrophy of the heart was little developed. "Of the twenty-one fatal cases, all had thickening of the arteries visible to the naked eye; all had well-marked hy-

pertrophy of the heart except three," where its absence might be accounted for by the general condition of emaciation. "In ten cases the kidneys were of the ordinary red wasted and granular variety." Two were large and granular; three were of the mixed or yellow granular variety; in five the kidneys looked normal to the naked eye, but of three examined by the microscope, "thickening of the vessels, Malpighian capsules, and stroma" was found.

Such, then, are the data which Dr. Mahomed puts forward to prove his position. His general observations and remarks only can be given here. The cases he records are too numerous and too lengthy for any attempt to be made here to give abstracts of them. They are, however, well worthy of careful perusal by all interested in the matter; and that means all thoughtful medical men. They are given from the notes made of them by the physicians, or their clerks, under whose observation they were. There is no tampering with the witnesses by Dr. Mahomed to prove his point: all is fair and above-board. So interesting is the whole that it seems to me it would be well for some publisher on the American side of the water to republish the thesis, so as to bring it within the reach of the thousands who would be glad to have the opportunity of making a careful study of the essay.

If the view put forward by some writers is a correct one, that renal changes may be set up by mental worry, the subject of chronic Bright's disease, of which the renal changes are a later outcome, becomes one of enthralling interest. The sooner such a tendency can be detected, the sooner something can be done to avert the threatening danger of the coming changes; but if the practitioner is lulled into a false confidence about his patient by an absolute reverence for the revelations of the test-tube, it seems highly probable that he will only succeed in locking the stable door—after the steed has gone.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JANUARY 26, 1882.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Osteoid chondroma of pelvis. Exhibited by DR. H. F. FORMAD.

THE specimen exhibited is a portion from an enormous tumor removed post mortem by Dr. J. T. Ullom, of Rogersville, Greene County, Pennsylvania.

The following history was kindly furnished by Miss Jennie Teagarden, medical student:

Mrs. Moore, of Greene County, Pennsylvania, married, æt. 36, height five feet three inches, weight in health one hundred and twenty-five pounds. Mother of three children; two are now living. The youngest child, born March, 1878, is healthy and well developed. Medical aid first called during summer of 1873, after having noticed a small hard lump in right iliac fossa; the growth about the size of a hickory-nut; no treatment; patient advised to let it alone.

One year later, another physician, Dr. J. T. Ullom, was called. On examination, found tumor about size of a walnut, firmly fixed, causing slight lameness, otherwise giving no trouble. The diagnosis made at the time was fibro-cartilaginous; no special treatment. The general health not impaired, but tumor rapidly increasing in size. During the year 1876, a dull, aching pain in the parts, joint became ankylosed. Patient did not lose flesh; menstrual function normal until last six months of life, then became scanty and irregular; three months before death, disappeared entirely. About same period, micturition became extremely difficult and painful; constipation during last year of life. At time of birth of last child, the tumor filled one-half the pelvis, gave great trouble in delivery, a slow labor exhausting patient very much. During last two years was obliged to lie in bed continually, the bed being a very low couch; could not rise up or move the affected limb. The appetite continued, digestion seemed unimpaired, and patient did not suffer greatly until two weeks preceding death. Defecation and urination then became almost impossible; catheter could not be passed. The extremities swollen and discolored, small blisters appearing upon the one on affected side. A small growth resembling the large one made its appearance upon ankle of the other extremity.

The mind remained clear. Death resulted from mechanical obstruction of bowels and bladder; occurred August 7, 1881.

Autopsy, ten hours after death.

The upper portion of the body presented no unusual appearance; lower limbs very much swollen; right limb presented a gangrenous appearance. A tumor covering whole of outer side of right hip, extending from median line to spine, and from knee to umbilicus in front and to ribs behind.

Longest diameter, forty-nine inches. From inside of thigh around nates, fifty-three inches.

Middle third of thigh, forty-six inches. Circumference of abdomen above tumor, thirty-five inches.

From crest of ilium around right nate, twenty-eight inches. Surface presented nodulated and irregular appearance. Dissection presented same appearance; integument not

adherent; separated readily; immediately beneath integument numerous cartilaginous growths formed singly and in clusters; some of these creak under the knife, a serous fluid escaping; no resemblance to muscle or blood-vessels. Deep dissection showed the whole joint involved, osseous growths, cysts from which a jelly-like fluid escaped; this in some parts dark grumous; middle and upper part of femur also involved. No muscles, nerves, blood-vessels, or bones; all appropriated to the abnormal growth. In the abdominal cavity a large quantity of a gelatinous substance. The uterus normal, also the left ovary; right barely recognizable. Weight of whole tumor, seventy-five and one-fourth pounds. No examination made of thoracic cavity. Death resulted from mechanical obstruction of bladder and bowels. Later diagnosis, enchondroma. The very early history not satisfactory; the post-mortem unavoidably made with haste.

Dr. GROSS said that he thought, from the description of the tumor given by Dr. Formad, the growth should be classed as an *ossifying osteoid chondroma*.

Dr. FORMAD said that it was true that bony plates were found after decalcification; but, as Virchow has pointed out, both ossification and calcification is the invariable and natural fate of the osteoid chondromata. Virchow has described them as benign, although metastases of these growths may occur. It is worthy of note that, with the exception of three or four cases, osteoid chondromata of the pelvis which occurred in *multiparous women* all followed fractures or injuries.

Dr. GROSS had not read Virchow's account of these tumors for several years, but thought that Dr. Formad was wrong, as Virchow distinctly states that they are of a suspicious nature, and relates a case in which metastatic growths had formed in the lungs and pleura. He thought all other German authors agreed in speaking of the great bulk attained by these growths and their extreme malignancy.

Dr. FORMAD thought that metastasis was not always a proof of malignancy. No one considers the osteoid chondroma or the pure chondroma malignant, although numerous cases of the latter tumor are on record in which metastasis is said to have occurred.

Dr. GROSS opposed this view, and said that he doubted if a *pure* chondroma of any organ ever resulted in metastasis, instancing the recent analysis of the cases of so-called malignant chondromata of the testicle by Mr. Bultin in support of this view.

Dr. FORMAD then spoke of chondroma of the testicle where the cartilaginous substance was disposed in the form of little cylinders wedged into the lymph-spaces, which might readily become dislodged and give rise to metastatic growths in the lungs. It has been also experimentally proved by Henry Wile that particles of any normal tissue trans-

planted to the lungs by means of the jugular vein grow and develop in precisely the same manner as malignant metastatic tumors. He did not deny that in many cases of cartilaginous growths in the lungs the question of their local origin from the bronchial cartilages might not fairly arise. The readiness with which the cartilaginous cylinders might be dislodged was pressed by Virchow.

Dr. SEILER asked whether the apparent difference between the different speakers could not be explained by stating that in enchondroma of any organ similar multiple growths were found which perhaps had no connection as cause and effect.

Dr. NANCREDE referred to the fact of the common association of cartilage with sarcomatous, myxomatous, and other growths, especially in testicular growths. Of course microscopical examination of a metastasis of such a mixed tumor would sometimes perhaps reveal cartilage alone, when the mistake as to chondromatous metastases might readily arise unless an exhaustive examination of the primary growth had been made.

Chondroma of testis. Exhibited by Dr.

H. F. FORMAD.

The patient from whom this tumor was removed was James Fox, æt. 40, white, and born in Ireland. He was admitted into the University Hospital December 19, 1881. Until within the last eighteen months he was healthy. About a year and a half ago he received a blow on the scrotum. The testicle remained tender for some time. One year ago the right testicle began to enlarge. At times there was slight pain, but not enough to interfere with his work.

When removed by Dr. Agnew, a large tumor involving the right testicle and right side of the scrotum, and extending to the external ring, was found. It was heavy, free from fluctuation, not translucent, and did not give impulse to touch on coughing. The superficial veins of the scrotum were enlarged.

Dr. S. W. GROSS thought that the tumor evidently sprang from some of the intra-scrotal structures, as the testicle was clearly present, comparatively—perhaps perfectly—healthy, as was also the vas deferens.

Report of the Committee on Morbid Growths.—"The tumor removed from the scrotum, upon microscopical examination, is found to be the testicle, in which are developed numerous small nodules consisting of encapsulated cells separated by a hyaline matrix,—cartilage-tissue. The tissue surrounding the small cartilaginous nodules is made up of fibrillar connective tissue in a state of active proliferation; its blood-vessels are mostly seen congested with blood. Here and there are seen the seminiferous ducts, the lining cells of which are undergoing granular degeneration. The small tumor connected with the testicle is found to be an enlarged lymphatic gland.

"April 13, 1882."

Tumor of the suprarenal body. Exhibited by
DR. H. F. FORMAD.

Dr. FORMAD said that he had no history of this specimen, it having been accidentally discovered in a post-mortem examination made for another affection in a patient dying in the Philadelphia Hospital under the care of Dr. Tyson. The kidney of the same side was of the large white variety, but was unconnected with the tumor, which was developed within the suprarenal body. It had extended also beyond its envelope, and, the doctor thought, probably involved some of the neighboring nerve-plexuses. Microscopically it resembled a glioma, but on more careful examination it might prove to be a non-medullated neuroma. There also seemed to be some myxomatous degeneration.

Dr. TYSON recalled the autopsy, but nothing of the previous history of the case. He did not think that the growth sprang from the suprarenal body.

Enchondroma of the larynx; ankylosis of the right arytenoid cartilage; dyspnœa, aphonia; death from pneumonia following tracheotomy. Exhibited by DR. J. H. MUS-
SER.

The patient from whom this rare specimen was removed applied to the University Hospital medical clinic for treatment, having been sent by Dr. Wetherill, of Lambertville, New Jersey. Prof. Pepper, in a clinical lecture, developed the following facts of the case.

During the war the patient was a cornet-player, continuing his profession since then as his health permitted. Ever since the war he complained of irritation in the throat and of shortness of breath, while his voice was changed in tone,—cracked. The dyspnœa was worse on exertion. There was gradual loss in the power of the voice. Three years ago he had to give up work, especially on account of dyspnœa. His breath had been offensive.

When examined, he was 50 years of age. He had lost twenty pounds in weight. The voice was lost; dyspnœa was constant; the breathing was stridulous; deglutition was not difficult, but there was a sense of obstruction; there was no expectoration. Laryngoscopic examination revealed congestion of the parts about the base of the epiglottis, and of the ary-epiglottic folds. There was complete paralysis of the right vocal cord; it was drawn aside; the right arytenoid cartilage did not move. Below the vocal cords, on the posterior wall, a tumor was readily seen, encroaching upon the lumen of the tube, the only free space being to the left of the median line.

The patient was advised of his danger, and of the wisdom of tracheotomy. He went home, to return in a short time on account of urgent dyspnœa. Just after entering, the dyspnœa became so severe that tracheotomy had to be performed hurriedly May 28, 1881.

He rallied well from the operation, and was in a good condition until June 1. Pneumonia developed that day, resulting in death in forty-eight hours.

After death, the state of the larynx was found as noted above. A tumor the size of a walnut, of the macroscopic appearance of an enchondroma, grew from the right half of the posterior surface of the cricoid cartilage into the lumen of the larynx. A space, elliptical in shape, one-half inch in length and one-eighth in width, to the left and anteriorly, alone permitted the entrance of a probe. The arytenoid cartilage was immovable.

It is of interest to note the causal relation between the occupation of the patient and the laryngeal disease, and to consider the inflammatory origin of the mass. In the works which I have at my command I cannot find any records of a similar case. Hence it must be extremely rare.

Dr. J. SOLIS COHEN said that he had never seen any such growth reaching the large size this one had attained. Such tumors were common in Europe, but much rarer here.

Gunshot wound of the mastoid process of the temporal bone, involving the lateral sinus; insignificant hemorrhage. Exhibited by DR. C. B. NANCREDE.

H. M., æt. circa 25 years, was admitted into the male surgical wards of the Episcopal Hospital under my charge on January 1, having accidentally shot himself the evening before with a small 22-calibre ball behind the right ear. Trifling bleeding had occurred, but little if any shock, and he walked unassisted to the hospital. No motor or sensory trouble was ever noted. On examining him carefully, the probe passed upward, inward, and backward through the mastoid process to such a depth as to convince me that the lateral sinus must be injured, especially as rather free venous bleeding ensued upon the withdrawal of the probe. Marked meningeal irritation ensued, with flushed face, congested eyes, high pulse and temperature, which was relieved by appropriate treatment, only to be followed by a pyæmic chill on January 11, when the mastoid process was trephined to give freer exit to the rather profuse discharge. A portion of the ball was found between the integument and the bone, but the main portion of the ball was not found. Some relief ensued, but on the 12th and 15th the chills recurred, and he died, January 16, in a markedly typhoid condition. The post-mortem examination showed that the ball lay partly within the sinus, partly between the bone and the upraised sinus-wall. Indeed, on opening the sinus, which was partially filled with ante-mortem and fully by post-mortem clot, the ball rolled out. Whether the ball originally penetrated into the sinus at all, whether it partially entered and the opening became larger by ulceration, or whether the aperture was wholly

due to the latter process, could not be determined. One or two small secondary abscesses were detected in the lungs.

Congenital cyst of the neck. By DR. J. H. MUSSER.

The tumor was situated on the right side of the neck; it was as large as the child's head; the base extended from the median line of the neck anteriorly to within an inch of the posterior median line, and from the edge of the lower jaw to the clavicle. The sac was distended, the wall quite thin; on the surface there was great capillary injection, but there were no evidences of a previous nœvus. The fluid drawn off was straw-colored, clear, and contained albumen. In three days it re-filled. Professor Agnew saw the child with me, and advised the introduction of a seton. The seton set up inflammation of the wall of the sac; it became thick, while the discharge changed from serous to sero-purulent, and then a thick, grumous, yellowish-green, very offensive fluid. The sac would diminish in size, to re-fill again, especially if the counter-outlets, which spontaneously opened, would close. In two and a half months the discharge ceased entirely, and at present there are three or four puckered and depressed cicatrices in the middle of the neck, with considerable redundancy of skin around them.

I should have stated that the child had hereditary syphilis, and that I had it on mercury for some time.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a conversational meeting held January 25, Dr. Horace Y. Evans, President of the Society, in the chair, Dr. M. O'Hara read a paper on "The Use of Ice in the Prevention of Mammary Abscess," and Dr. W. R. D. Blackwood read a "Note on Nitrate of Silver in Dysmenorrhœa" (see p. 517). Dr. Henry E. Dwight related "A Case of Insanity and Suicide caused by Middle-Ear Disease."

ICE IN TREATMENT OF MAMMARY ABSCESS.

Dr. Henry E. Dwight approved of this plan of treatment, as he had used it with much benefit in a number of instances. He had learned its use in Europe. Such cases, however, he believed to be much rarer in France than here.

Dr. W. R. D. Blackwood said that he was perfectly satisfied that belladonna plaster does not prevent the secretion of milk or the formation of abscess, as he had used it freely without seeing any good effect. He had, at Dr. O'Hara's suggestion, tried the ice treatment, and had very satisfactory results from it. Some cases, however, cannot use it to any extent without its producing great depression.

Dr. Woodbury inquired if the cases treated

by belladonna, in which the secretion of milk had not been influenced, had experienced dryness of the throat while under treatment. Possibly the constitutional effects were not obtained; and this might explain the difference between the last speaker's observations and those of the authorities generally upon the physiological action of belladonna.

Dr. Blackwood said that the patients had exhibited the usual symptoms of dry throat and dilated pupil.

Dr. O'Hara said that he would have quoted Dr. Corson more freely, had time permitted, as to the value of the ice treatment in arresting incipient inflammation, which is not as well known or as frequently used as it should be. He would not wish to convey the impression that these cases are common; on the contrary, they are rare. He had never seen a case of gathered breast following a still-birth; but where the breast remains functionally active he believed that no remedy could be relied upon equal to ice. It is important, unless really necessary, not to dry up both breasts, on account of the child.

Dr. Henry Leffmann said that he was much interested in the remarks of Dr. Blackwood upon sewage in ice. He thought that such contamination is very frequent. He also said that Dr. Cameron, of Dublin, has recently shown that the ordinary water found in oysters may be very rich in sewage, giving very high figures by analysis. His attention had been attracted to the subject by the fact that the oysters were growing near the outlet of the sewers in the docks.

NITRATE OF SILVER.

Dr. C. K. Mills said that he had had considerable clinical experience with nitrate of silver in the treatment of nervous disorders, and had found it to be the best remedy for some of these diseases. In posterior spinal sclerosis, he thought that of all the remedies we have, except the iodide of potassium, the nitrate and oxide of silver are the best. He had also used the nitrate in epilepsy, but had obtained less good effects than from the bromide, or the salts of zinc with belladonna. In chorea he had given it with apparent success. Sometimes it has a beneficial effect in sclerosis of the lateral columns and in disseminated sclerosis. In all these cases the benefit seems to be derived from the action of the remedy upon the nerve-centres, and not from any local effect exerted by it upon the viscera. In the same way, the good results reported from its use in catarrhal jaundice, and in typhoid fever and other affections, may be due to its action on the central nervous system rather than to its local effects. He thought it is questionable whether small doses of the nitrate pass beyond the stomach unchanged. The typhoid lesion in the intestine may be simply a trophic one of central origin. We cannot explain the general effects of the ni-

trate of silver any more than we can those of arsenic in improving the nutrition. Late observations, however, show that arsenic really acts upon the nerve-centres, and this may be the explanation likewise of the action of the silver salts. Many of these restorative agents act more upon the vaso-motor system of nerves.

Dr. F. Woodbury said that the question of the general or local action of nitrate of silver in the class of cases referred to by the lecturer might easily be decided. If the benefit be due to the local action of the silver salt, in accordance with the therapeutical law that remedies act as stimulants to the glands by which they are excreted from the blood, then silver should be found in the discharge from the uterine mucous membrane; if it is not so found, it would to some extent favor the other view, that the effect is secondary to an impression upon the nervous system.

Speaking of contaminated ice, he referred to a family poisoned by using ice from a pond into which sewage had been discharged, reported by Dr. Budd in the Transactions of the Medical Society of the State of Connecticut. This is only likely to occur where ice is taken from shallow streams or ponds. Freezing does not destroy disease-germs; it merely suspends their activity. Even higher animal organisms, such as caterpillars' eggs, are frozen and covered with ice on the trees during the winter without destroying vitality. Freezing does not even coagulate albumen, or interfere with the response to the ordinary reactions afterwards. He had frozen albuminous urine in a test-tube, which afterwards melted again, but coagulated permanently upon the application of heat.

Dr. Blackwood said that it had occurred to him to make the test suggested by Dr. Woodbury, but he had somehow neglected to do so: he would, however, carry it out, in order to discover whether the silver is present or not.

INSANITY AND SUICIDE DUE TO EAR-DISEASE.

Dr. Henry E. Dwight related a case of persistent tinnitus aurium resulting in suicide.

Dr. Chas. K. Mills inquired as to the pathological conditions in the case. Was it a brain tumor, meningitis, or simply middle- or internal-ear disease? In the absence of any post-mortem, the symptoms seemed to point most probably to a meningeal growth, or meningeal inflammation following disease of the ear. He had seen a similar case, which did not terminate in suicide, however, but in natural death. He considered the diagnosis of acute mania as not settled. Some of the features suggest dementia paralytica; but, on the whole, the appearances are in favor of a limited lesion, such as a meningitis or a bone abscess spreading from the ear.

Dr. H. Augustus Wilson mentioned two cases of interest. In one, inflammation of the external ear was followed by middle-ear

disease and insanity. This was cured by removing some impacted cerumen, perforating the drum, and allowing the free flow of pus. A complete cure resulted in the course of a few months. The second case followed the use of the nasal douche: symptoms like those related by Dr. Dwight appeared; in forty-eight hours he was wildly delirious, and died under the influence of morphia, though not under the speaker's care. The subject is a very important one in relation to the course of ear-disease and the effects of treatment, whether proper or improper; and in this connection he referred to the interesting paper of Dr. Harlan, read before the Society last spring, as showing the relations existing between brain-disease and affections of the middle and internal ear, and the explanation of the causes of death in ear-disease. In the case reported it was probably caused by acute meningitis. He had seen the patient, and noticed that his face wore an expression of intense pain; he looked haggard and worn. A few days later he committed suicide.

Dr. Dwight said that he was interested in the cause of death, but in the absence of a post-mortem he had, in consultation with Dr. Strawbridge, arrived at the conclusion that it was due to extension of inflammation by means of the blood-vessels from the internal ear to the brain, although it might possibly have been due to meningitis. F. W.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held April 20, 1882, Dr. FORDYCE BARKER, President, in the chair.

APPLICATIONS OF RUBBER TUBING.

The first scientific work of the evening related to "Some Applications and Uses of Rubber Tubing," by W. M. CHAMBERLAIN, M.D. The speaker said, "It is, I believe, about a year since one of the surgical-instrument-makers of this city imported from Vienna a series of pieces of an apparatus known as Lighter's tubes, made of some metal, as block-tin, in the form of plates or disks, to be applied to various surfaces of the body for the purpose of circulating through them cold water with a view to the reduction of the temperature, locally in surgical cases and generally in medical cases. With these tubes came a pamphlet setting forth their mode of use, and containing testimonies from many journals as to the value of the principle and the adaptability and usefulness of the particular appliances, which seemed to be an entire novelty in that country. A patent was taken out on them in Austria, and it was the purpose of the inventor to take out a similar patent in this country; but when the importer showed it to some gentlemen here he was told that the instrument could not be patented, because the

principle, and even substantially the appliances, had been given to the profession several years ago. In 1873-74, at the meeting of the Medical Journal Association in this city, I endeavored to show those who were present a certain evening that various offices about the sick which were ordinarily performed by the use of a variety of instruments or appliances might better be performed by extemporizing apparatus made from rubber tubing. I supposed at the time that my ideas and appliances were novel; for certainly they were original and not borrowed. Since then I have ascertained that the same idea to a certain extent had already been developed by Dr. Roberts, of London, in 1871, and by Dr. Ashhurst, of Philadelphia, in 1872. The instruments which I exhibited nine years ago I beg privilege of the Academy to exhibit this evening, and for the reason just referred to, that the principle is now attracting the attention of the profession as lately being original in Austria." Dr. Chamberlain then briefly referred to the literature on the subject of heat and cold in therapeutics, and said that the best single monograph on the subject was that by Esmarch, which was translated by the Sydenham Society, and related particularly to the principle as applied to surgery. From it he quoted from memory, "Of all the means which we possess for limiting the inflammatory process, I regard cold as the most available and the most efficient, and without it I would rather not be a surgeon." The appliances used by Esmarch were thin rubber bags containing ice. These had several objections. Containing ice, the degree of cold might be greater than necessary; if they did not contain ice, the degree of cold would be very inconstant, and they would also require a good deal of attention in changing the application, which was a source of discomfort to the patient. The weight might be uncomfortable to the patient, and it was difficult to adapt the bag to the form of the part to which it was applied. These objections to the ice-bag suggested to Dr. Chamberlain the idea of making use of soft-rubber coiled tubing, through which water at any degree of temperature could be constantly passed by means of siphon-pressure. In carrying out this idea, it was well to have the siphon-tube separate from the coil, with a funnel at the end for the entrance of the fluid, and a stop-cock at the other end. The vessel containing the fluid could be raised to any height, thus allowing the passage of a current at any desired rapidity. The tubing itself could be of any size indicated, and could be coiled into plates of any form, as round, circular, or oblong, and of any size, or, as when applied to the finger, wrapped round the part. The coil could be held in shape by strips of tin, or loosely bound to an open piece of fine wire matting, the latter method perhaps being most convenient. The apparatus could be made use of for the

application of cold in various affections, as in luxations, inflammation of deep fascia, synovitis of most of the joints, cerebral rheumatism or acute rheumatic meningitis, acute inflammation of the trachea, etc. It was of use where the temperature quickly rose after the cold bath, when the urgency of the case required this more general and severer application of cold. The small coil was of very great service in affections of the eye, as gonorrhoeal, diphtheritic, and septic inflammations, etc., which by the old method were treated by constantly renewing every few minutes for several days the application of a cloth wrung out of cold water, a matter of great trouble, of discomfort to the patient, and of irritation to the surface. Not the least advantage which this appliance possessed was that it enabled us to employ hydrostatic pressure in washing out the bladder and stomach. It could be done with the greatest ease and gentleness. By lifting the vessel containing the fluid above the level of the hollow viscera, this would be filled by siphon-pressure, and emptied again on the same principle by lowering the vessel, thus enabling us to dispense with pumping-force necessitated by the use of the syringe. A rubber tube of softer and less irritating construction than the generally-used œsophageal tube could be employed. He thought the principle might be made use of in the treatment of tetanus, passing the current through a tube along either side of the spine, that affection having recently been treated on the principle of cold.

Dr. VANDERPOEL had used this method of washing out the stomach, employing soft-rubber tubing for the purpose instead of hard rubber, of which the common œsophageal tube was made, and found it exceedingly easy, efficient, and comfortable to the patient. The patient made the application himself without any assistance, as it were swallowing the soft-rubber tube, and apparently finding almost as much pleasure in emptying his stomach as in eating his food.

"PERIOSTEAL PRESERVATION IN AMPUTATIONS OF THE LEG" constituted the title of a paper read by Dr. JOSEPH D. BRYANT. The author stated that his purpose in writing the paper was not to present new or revolutionary ideas, but to elicit the opinion of those who had greater experience than he regarding the practical value of periosteal flaps, as they were called. He would incidentally allude to the practical proof which may have fallen under his own observation bearing upon the manner of making them, their subsequent usefulness, applications, etc. The history of the subject would occupy but little space in his paper, and would relate principally to the question whether healthy periosteum, when separated from the healthy bone, would reproduce bone of a healthy, normal structure. This question was answered in the affirmative by experiments on the lower animals. In review-

ing the question as to whether healthy periosteum could be separated from the healthy bone of the human subject, and its integrity be sufficiently preserved to perform its characteristic function, the production of bone, the answer, though more reserved and qualified, was still in the affirmative. The external fibro-vascular layer of the periosteum was more easily detached than the inner or cellular layer, but, even if it could be determined that either the one or the other alone had the power of reproducing bone, it still remained unquestionable that both together performed this function more efficiently, and the greater difficulty of detaching at the same time the inner layer should be overcome by the surgeon in every case. The success depended much upon a judicious selection of cases. The ratio of success was reverse to the age of the patient, being greater in youth, at which time also the membrane could be most easily detached from the bone. With proper care, new bone would be formed within from five to eight months.

If formed, would it be of use to the patient? The uses claimed for it were, that it prevented necrosis of the end of the divided bone; that it prevented discharges entering its canal; that it aided in preventing retraction of the flap; that it prevented adhesion of the cicatrix to the end of the extremity of the bone; that the new bony growth provided a firm extremity which obviated a tender and irritable stump. Dr. Bryant said that if one-half of these views were fulfilled, the patient would be inestimably benefited; and his observation, as far as it went, sustained them. It was objected that the healthy periosteum could not be detached in a manner subsequently to perform its function, but that subject was considered before; and second, that bony spiculæ might project from the membrane into the extremity in a manner to irritate and annoy, perhaps cause complications requiring a subsequent amputation. The possibility of this latter accident he explained to his patients before adopting this mode of amputating, and acted on their decision.

He related two cases. In the first, that of a retired army officer, he performed Hood's amputation, and the results proved excellent, the patient having no trouble whatever in the wearing of an artificial limb; but by this method it was more difficult to adapt the detached periosteum to the end of the bone than in the second case, in which he performed the oblique operation. In this case also the recovery was rapid and complete, and was not attended by much suppuration. The patient was able to wear an artificial limb five weeks after the amputation, without any discomfort to the stump. Four months after the operation it became necessary to reamputate at the knee-joint, on account of a return of the malignant disease. The limb at the former amputation was then carefully

examined. The cicatricial line in the soft parts was scarcely discernible. It was freely movable. The periosteum was found to be firmly and evenly attached to the end of the tibia, sealing its extremity thoroughly. It could be detached from the end of the bone with but little difficulty. Its continuity with the periosteum above was plainly to be seen, and its relation to the superimposed soft parts was unchanged, being similar in all respects to that found in the limb above. There was no tangible evidence of the production of bone. The end of the tibia was smoothly rounded and closely covered by the membrane. The end of the fibula, which had not been covered by detached periosteal membrane, was found covered with fibrous tissue. He thought it a matter of little importance with such results whether bone were reproduced by the membrane or not.

Dr. STEPHEN SMITH said he had had a good deal of experience in this direction, some of it a little different from the details given by the author of the paper. He had not had an opportunity to make more than a superficial examination of the case years afterwards. His attention was called to the subject a long time ago, chiefly by seeing the very brilliant results Dr. Wood attained by his resections of the jaw, and he made some attempts to save periosteum in a rude way, as a great many seemed to do, by scraping it up, thus causing a certain amount of periosteal scrapings to fall on the end of the stump, but he was now satisfied that this did no good; it probably did a great deal of harm by necrosing and causing suppuration. Afterwards, however, he performed a very different operation, one which he thought preserved the periosteum better than that done by Dr. Bryant. It consisted, in the case of the leg, in making a long posterior incision, making flaps laterally, turning the flaps back about an inch, and making a complete circular operation of the leg, so that the stump then presented itself directly to the operator's face; the blood-vessels were tied, the periosteal covering was turned back with the entire mass, so that the periosteum and the tissues between the skin were entirely undisturbed. The drainage-tube was not employed, being a source of irritation and annoyance to the bone, and, as the drainage was very perfect in these cases without it, it might well be dispensed with. Indeed, since he employed this operation he got a great deal less suppuration even without the antiseptic dressings than formerly with them. He had witnessed growth of bone at the end of the stump in but a single case which made progression impossible. Patients with this kind of a stump bore artificial limbs with the greatest readiness almost from the first. He had not seen a case of adherent cicatrix, or one in which the cicatrix had ulcerated from use. An advantage of this method which Dr. Bry-

ant had not mentioned was the fact that the end of the bone did not atrophy and become spindle-shaped, as it did after the old-fashioned method, the cicatrix then adhering to the conical end and causing trouble. He considered the advantages, both immediate and remote, of saving the periosteum and covering the end of the stump with it, over the old method, at least fifty per cent.

The Academy then adjourned.

REVIEWS AND BOOK NOTICES.

ON HEMORRHOIDAL DISORDER. By JOHN GAY, F.R.C.S., etc. 8vo, pp. 60. London, Churchill & Co., 1882.

We have read this little volume with much care, but must confess that we have failed to find in it any new light upon either the pathology or treatment of hemorrhoids. The author's style is very ponderous, diffuse, and involved; and he has a fancy for hair-splitting which is perplexing to the ordinary mind. Thus, in a foot-note on page 24, he says, "I have endeavored to distinguish between a *varicose* vein and *varicosity* of a vein. The former term I have used to denote a vein the coats of which have undergone morbid structural changes; the latter, simply dilatation with tortuosity." We do not see how it can be possible that a varicose vein should be anything but a vein in a state of varicosity. Although very neatly gotten up, the book is disfigured by a number of typographical errors.

THE PREVENTION OF STRICTURE AND OF PROSTATIC OBSTRUCTION. By REGINALD HARRISON, F.R.C.S., etc. 8vo, pp. 28. London, J. & A. Churchill; Liverpool, Adam Holden, 1881.

In this very practical little book the author urges the correctness of the view, now out of favor in some quarters, that a large majority of non-traumatic strictures are preceded by chronic gonorrhœa or gleet, and that the most frequent seat of stricture corresponds with that of gleet,—namely, the subpubic or deeper portion of the canal. Hence he advocates, for the prevention of stricture, more thorough dealing with the antecedent disease, and describes a simple but effective apparatus for the purpose. He thinks that a physical examination of the urethra should be made after all attacks of gonorrhœa. On this latter point we can hardly agree with him, as there are many patients who quickly and thoroughly recover from urethritis, just as from nasal catarrh. It is always better for the surgeon to have an eye upon even these for a few months, in order to be sure that the parts affected have become quite normal; but unless there is some doubt on this point we cannot think the passage of an instrument necessary.

With regard to the prevention of prostatic obstruction, Mr. Harrison recommends the employment of pressure by means of the regular and frequent introduction of bougies, with the view of "so moulding it [the prostate] as it grows as to prevent interference with the mechanism of micturition." For this purpose he employs olivary instruments, with stems long enough to permit the bulb to enter the bladder. The patient is taught to introduce the bougie for himself, and directed to do so at lessening intervals. Some very good practical rules for the hygienic management of the urinary organs are given; and our author concludes by expressing his continued confidence in the value of ergot as an internal remedy in cases of enlarged prostate.

GLEANINGS FROM EXCHANGES.

TREATMENT OF FRACTURES OF THE FEMUR BY SMITH'S ANTERIOR SPLINT.—Dr. J. Edwin Michael recently read an interesting paper before the Clinical Society of the State of Maryland, entitled "A Critical, Historical, and Clinical Study of Smith's Anterior Splint," which contains a review-sketch of the development of this method of dressing fracture of the thigh, and discusses several forms of apparatus for its treatment by suspension in a position of moderate flexion of the limb both at the knee and hip, but especially by the apparatus known as the wire splint of Prof. N. R. Smith, of Baltimore. He concludes his article with the following remarks:*

"In saying what I have in regard to the anterior splint, I have been actuated by a desire to bring before the profession a subject which it seems to me is too much neglected, and to call the attention of surgeons to an apparatus which may be a source of great satisfaction to themselves and comfort to their patients. I have attempted, and hope I have succeeded in discussing the subject from a judicial point of view, and, while I heartily approve of the anterior splint, I should dislike exceedingly to be considered a partisan of it or of any other instrument. The conclusions at which I have arrived are based upon a philosophical consideration of the principles involved, and supported by a sufficient amount of testimony from those who have put the matter to the clinical test to give them stability. My own experience has led me to adopt the anterior splint, as a rule, in the treatment of fractures of the femur. I have, from time to time, gravitated off to one or other of the different methods recommended. I have used the fixed splints of plaster, starch, etc., and, while my cases have generally done well, I have found the treatment more or less unsatisfactory. I have also used Gurdon Buck's

* Annals of Anatomy and Surgery, April, 1882.

extension method, and should use it again in a case of extremely oblique fracture. But the position is uncomfortable to the patient, and unless there should exist especial indications for it I would deem it unnecessary. I have therefore found it to the advantage of myself and my patients to return to what, with me, is first principles. The meagre accounts which I find in Gross, Bryant, Erichsen, Holmes, and other systematic text-books on surgery which have come under my observation, convince me that the apparatus of Smith has not received the attention it merits, and I have no doubt that if surgeons would put it to the test in their practice they would find it possessed of all the good qualities we claim for it. It acts on well-recognized surgical and anatomical principles, is cheap, simple, easy of application, allows the patient considerable freedom of movement, gives perfect access to wounds in compound fracture without interference with the splint, and is for the general run of cases the best apparatus for the treatment of fracture of the femur, whether it be simple or compound, and of compound fracture of the leg."

EXCISION OF A STRICTURE OF THE DESCENDING COLON THROUGH AN INCISION IN THE LUMBAR REGION.—Dr. Thomas Bryant, at the March meeting of the Royal Medical and Chirurgical Society, read the record of a case of stricture of the descending colon, in which he excised the diseased segment of bowel through the wound made for a left lumbar colotomy, the patient recovering. The operation was performed on a lady aged 50, who had suffered from complete obstruction for eight weeks, and was very feeble. The stricture could not be felt from below. The bowel was removed through the oblique incision made for left lumbar colotomy, by simply pulling the segment strictured through the wound, and stitching each portion of the bowel, with its two orifices as divided, to the lips of the wound. The stricture was of the annular kind, and involved about one inch of the bowel; it was so narrow as to admit the passage of a No. 8 catheter. The preparation was exhibited, with microscopical appearances of the growth in section, as made by Dr. Goodhart. Mr. Bryant said he believed the operation he had performed was a new one, and that it was applicable to not a few of the cases of stricture of the descending colon. It had suggested itself to his mind from seeing cases of localized or annular stricture of the bowel which were free and movable, both in operations of colotomy as well as in the post-mortem room; but the case read was the first in which he had put the suggestion into practice. He pointed out how these annular strictures were generally local diseases, and consequently how desirable it was that they should be removed where possible. He suggested that the question of excision of the diseased growth should be entertained as soon as the

diagnosis of the case was made, and that, in every case of colotomy for chronic obstruction of the descending colon, the possibility of being able to remove the diseased bowel by operation should be considered before the bowel was opened for a colotomy operation. He then showed how desirable it was that the question of excision or of colotomy should not be postponed till the patient's powers were too feeble to bear either, as was too often the case. He stated that he did not regard the operation he had performed in a more serious light than he did a colotomy in which the peritoneum was wounded.—*Brit. Med. Jour.*, April 1.

TETANUS FOLLOWING VACCINATION WITH BOVINE LYMPH.—A boy 9 years of age was vaccinated by Dr. Theo. Dimon, of Auburn, on the 6th of last January, with a quill charged with bovine virus. On the 27th the arm exhibited a large irregularly-shaped ulcer, one-half covered with dark incrustation; the remainder, with excavated edges, showed large dingy granulations, with here and there bits of thick pus adherent to them. The arm was swollen, and there were ascending patches of erythema on each side. The axillary glands were large and tender. The worst feature of the case, however, was a stiffness of the jaws, which prevented his opening his mouth. During the day he had occasional slight chills, pains radiating from the pit of the stomach to the whole trunk, accompanied by attacks of tonic spasm. When seen at this date, opisthotonus had existed for some hours; slight irritation of the body brought on general convulsions. Pulse, 90; temperature, 98.5°; body covered with perspiration; mind clear. There was positively nothing to attribute the tetanus to except the vaccination. On the tenth day after, he died from exhaustion.—*St. Louis Courier of Medicine*, April, 1882.

[A similar accident with like result in an infant three months old was reported by Dr. James Collins to the Philadelphia County Medical Society, May 25, 1881.* In this patient, bovine virus also was used. The crust fell off on the twenty-first day, leaving the child apparently well. Shortly afterwards it was seized with opisthotonus, and died in a few hours.—ED.]

POISONING BY STRYCHNIA SUCCESSFULLY TREATED BY AMYL NITRITE.—Dr. Robert Barnes, in the *British Medical Journal* for April 1, reports a case of a gentleman who had swallowed a poisonous dose of strychnia, and was suffering with most violent tetanic spasms, with marked opisthotonus, and his respiration was nearly suspended, when the inhalation of nitrite of amyl was followed by great amelioration of the symptoms. The moment that the premonitory twitchings were noticed, the inhalation was commenced, with the effect of averting or greatly modifying the fits; and, to make the evidence more

* See Proceedings of the Society, vol. iii. p. 256; also Philadelphia Medical Times, vol. xi. p. 727.

complete, when the warning was not seized in time the convulsion appeared in nearly its original intensity. This treatment, continued for sixteen hours, resulted in the recovery of the patient. It does not appear that any other antidote was given. The power of nitrite of amyl in subduing spasm also renders it of service in obstetrics, both in general convulsions and in hour-glass or other irregular or excessive contraction of the uterus. For these purposes Dr. Barnes thinks it even more valuable than chloroform.

ECTROPION SUCCESSFULLY TREATED BY TRANSPLANTATION OF SKIN.—In the *British Medical Journal* for January 7, 1882, Dr. Louis H. Toss will publishes the clinical record of a case of a boy of 10 years, who, as the result of a severe and extensive burn of the face, had most marked ectropion of both eyelids, and also eversion of the lower lip. As the dense cicatricial tissue extended over the whole of the left side of the face and along the forehead to the outer side of the right eye, and also involved part of the right side of the nose and the skin immediately below the right lower lid, there was no healthy skin available for the formation of a flap. Under these circumstances, a plastic operation was performed, pieces of healthy skin from the arm and forearm being transplanted to the left upper and lower eyelid respectively. Four months later the ectropion of the upper lid was entirely cured, and that in the lower lid greatly improved. The grafts remained nearly of their original size, forming a marked contrast to the surrounding tissues.

HOT WATER IN THE TREATMENT OF HEMORRHOIDS.—Landowski (*Cbl. f. Chir.*; from *Jour. de Thérap.*) suggests hot sitz-baths in bleeding piles, together with enemata of hot water. These not only check the bleeding, but also diminish the size of the tumorous tumors to a marked degree. In ordinary hemorrhoids three sitz-baths per diem may be employed. In bleeding piles the baths should be more frequent, and the enemata should be given as hot as the patient can bear (usually about 104°).—*Louisville Medical News.*

MISCELLANY.

THE DUTIES OF PRACTITIONERS IN RELATION TO THEIR PROFESSIONAL SERVICES TO EACH OTHER, TO THEIR FAMILIES, WIDOWS, AND CHILDREN.—All legitimate practitioners of medicine, their wives, and children, while under the paternal care, are entitled (NOT as a matter of right, but by professional courtesy) to the reasonable and gratuitous services—*railway and like expenses excepted*—of the faculty resident in their immediate neighborhood, whose assistance may be desired. In

the case, also, of near relatives who are more or less dependent upon a professional brother (other than wealthy), it will likewise be well, at his request, to forego or to modify the usual fee. On the other hand, a son or daughter altogether independent of the father, or the widow and children of a practitioner left in affluent circumstances, should be charged as ordinary patients, unless feelings of friendship or other special reasons render the attendant practitioner averse to professional remuneration. In such case the rule need not apply. Moreover, if a wealthy member of the faculty seeks professional advice, and courteously urges the acceptance of a fee, it should not be declined; *for no pecuniary obligation ought to be imposed on the DEBTOR which the DEBTEE himself would not wish to incur.*—Proposed Amendment to Code of Medical Ethics, *British Medical Journal*, 1882, p. 480.

FORMER MORTALITY FROM SMALLPOX IN PHILADELPHIA.—In looking over some old books we observed a record of the deaths by smallpox in Philadelphia long prior to the introduction of vaccination. In 1731 the deaths were 490, and in the seven years, 1738 to 1744, the number was 3179,—an average of 454 yearly. It must be considered that the population of the city at that period must have been less than 20,000. The record gives the number of taxables in 1740 as 5000,—a figure that would represent less than 20,000 individuals. Suppose for a moment that the disease should prevail with equal fatality in San Francisco at the present time,—the population being at least twelve times that of Philadelphia in 1740,—we should have 6000 deaths in a year, or 42,000 in seven successive years. In other words, the deaths from smallpox alone would far outnumber the present mortality from all causes combined. These figures appear almost incredible, yet they belong to that class of figures that do not lie. What else than vaccination makes the difference? How can this argument be evaded?—*Pacific Medical and Surgical Journal.*

STRETCHING THE OPTIC NERVE.—Dr. Kummels, of Hamburg, has stretched this nerve seven times in five cases. Partial or complete loss of sight from atrophy of the nerve was the pathological condition before operation. Where blindness was not complete there was some improvement. The operation was performed by passing a curved hook through a slit in the lower and outer part of the conjunctiva near the cornea; the optic nerve is then caught and stretched, "not too strongly." Slight symptoms follow the operation.—*Medical Record.*

THE first part of the Italian translation of Dr. Duhring's "Treatise on Diseases of the Skin" has been received in this country. It is to appear in parts, or *fasciculi*, of one hundred pages octavo each. The translator is Dr. A. Scambellwei of Naples, and the publisher Jovene of the same city.

At the stated meeting of the Philadelphia County Medical Society, held April 19, 1882, the following resolutions were adopted:

Resolved, That this Society re-affirms its adherence to the principles of the Code of Medical Ethics of the American Medical Association, and declares that, in its opinion, for a physician to extend professional recognition to irregular practitioners is to patronize and encourage irregular practice, and is alike inconsistent with honesty of purpose and the pursuit of medicine as a science.

Resolved, That this resolution be referred to the Pennsylvania State Medical Society at its next annual meeting.

H. AUGUSTUS WILSON, M.D.,
Corresponding Secretary.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.—It was feared that the recent conflagration at Titusville would materially interfere with the annual session of this body which is to be held at that place, commencing May 10.

The Committee of Arrangements announce that they have ample lodging-room in private houses to supply all who come, and that the hotels that are left will feed four hundred if necessary, and feed them well.

The Committee are ready to assign good rooms to all the members and those who may accompany them.

WM. B. ATKINSON, M.D.,
Permanent Secretary.

1400 PINE ST., PHILADELPHIA.

THE PATHOLOGICAL SOCIETY on April 27 held a *conversazione* at the Hall of the College of Physicians, followed by a social meeting. Prof. R. Bartholow, by invitation, read a paper on "The Trophic System as a Factor in Pathological Processes." A large number of invited guests were present, and the occasion was heartily enjoyed by all.

OFFICERS OF THE MUTUAL AID ASSOCIATION.—President, Dr. Wm. Pepper; Vice-Presidents, Drs. W. T. Taylor and J. B. Roberts; Treasurer, Dr. G. B. Dunmire; Secretary, Dr. M. S. French; Directors, Drs. H. H. Smith (Chairman), George Hamilton, M. O'Hara, A. H. Smith, A. St. Clair Ash, B. Burns, W. B. Atkinson, J. Solis Cohen, Albert Frické.

THE MÜTTER MUSEUM OF THE COLLEGE OF PHYSICIANS is now open each morning. Dr. Richard H. Harte has been appointed Assistant to the Curator, and is in daily attendance.

THE MÜTTER LECTURESHIP.—Dr. E. O. Shakespeare concluded on the 12th ult. a series of ten lectures on the Mütter foundation, upon the subject "Contributions to the Histology of Inflammation."

DR. HUGH W. BROCK, Professor of Anatomy, Physiology, and Hygiene in the State University of West Virginia, died April 28, at his home in Morgantown.

MR. CHARLES DARWIN died April 20.

THE serious illness of Sir Erasmus Wilson is announced.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM APRIL 16 TO APRIL 29, 1882.

GREENLEAF, CHARLES B., MAJOR AND SURGEON.—In accordance with Paragraph 12, S. O. 78, c. s., from headquarters of the army, relieved from duty in this Department. S. O. 57, Department of Dakota, April 11, 1882.

JAQUETT, G. P., MAJOR AND SURGEON.—Granted leave of absence for six months on surgeon's certificate of disability. G. O. 97, A. G. O., April 27, 1882.

GARDNER, W. H., CAPTAIN AND ASSISTANT-SURGEON.—His assignment to duty at Fort McKavett, to relieve Surgeon Waters, revoked, and to report to the Commanding Officer, Fort Davis, Texas, for duty as post-surgeon. S. O. 38, Department of Texas, April 14, 1882.

LAUDERDALE, J. V., CAPTAIN AND ASSISTANT-SURGEON.—Paragraph 1, S. O. 47, c. s., from these headquarters, in regard to him, revoked, and he will proceed to Fort Sully, D. T., and report to the Commanding Officer of that post for duty. S. O. 59, Department of Dakota, April 13, 1882.

MAUS, L. M., CAPTAIN AND ASSISTANT-SURGEON.—Having reported at these headquarters, will proceed to Fort Lewis, Col., and report to the Commanding Officer for duty. S. O. 86, Department of the Missouri, April 24, 1882.

BROWN, P. R., CAPTAIN AND ASSISTANT-SURGEON.—To be relieved from duty in Department of Texas on receipt of this order, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 88, A. G. O., April 17, 1882.

FINLEY, J. A., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Fort Concho, Texas, and assigned to duty as post-surgeon at Fort McKavett, Texas, relieving Surgeon Waters. S. O. 38, c. s., Department of Texas.

KILBOURNE, H. S., CAPTAIN AND ASSISTANT-SURGEON.—Having reported in person at these headquarters, will proceed to Fort Shaw, Mont. T., and report to the Commanding Officer of that post for duty. S. O. 60, Department of Dakota, April 14, 1882.

PORTER, JOSEPH Y., CAPTAIN AND ASSISTANT-SURGEON.—His leave of absence for one month granted him in S. O. 32, Department of the South, March 14, 1882, extended one month, with permission to apply for a further extension of twenty days. S. O. 17, Military Division of the Atlantic, April 25, 1882.

GARDINER, J. DE B. W., CAPTAIN AND ASSISTANT SURGEON.—Telegraphic instructions of this date, assigning him to duty at Fort Huachuca, A. T., confirmed. S. O. 57, Department of Arizona, April 19, 1882.

GARDNER, EDWIN B., CAPTAIN AND ASSISTANT-SURGEON.—Having reported at these headquarters, is assigned to temporary duty at Vancouver Barracks, Washington T. S. O. 50, Department of the Columbia, April 14, 1882.

CORBUSIER, W. H., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as post-surgeon at Fort Mackinac, Mich. S. O. 67, Department of the East, April 15, 1882.

SHUFELDT, R. W., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for three months from May 1, 1882. Relieved from duty in the office of the Surgeon-General, to take effect May 1, 1882, and, upon expiration of his leave, to report by letter to the Surgeon-General. S. O. 92, A. G. O., April 21, 1882.

ROBINSON, S. Q., CAPTAIN AND ASSISTANT-SURGEON.—Having reported at these headquarters, is assigned to duty at Fort Spokane, Washington T. S. O. 50, c. s., Department of the Columbia.

DAVIS, WM. B., CAPTAIN AND ASSISTANT-SURGEON.—So much of Paragraph 12, S. O. 78, April 5, 1882, from A. G. O., as directs him to report for duty to the Commanding General, Department of the Platte, is amended as to direct him to report in person for duty to the Commanding General, Department of Dakota. S. O. 87, A. G. O., April 15, 1882.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MAY 20, 1882.

ORIGINAL COMMUNICATIONS.

THE RELATIONS OF FORESTS TO HEALTH-RESORTS.*

BY J. M. ANDERS, M.D., PH.D.

IT will not be denied that most modern medical science frequently cannot determine what particular climate is best adapted to the wants of individual cases of lung-disease, or even of invalids as a class. It is not a rare occurrence, though unfortunate, for the consumptive invalid to try not less than half a dozen reputed resorts in as many months without improvement,—nay, often with advancement of the disease and a desponding heart. Despite such obvious truths, it is nevertheless a fact that the climatic treatment of consumption offers the best chance of success, so unsatisfactory are the resources of the physician in his grapple with this disease.

In a former article it has been experimentally shown that forests exert a marked influence upon local climatology, and particularly the hydrology of a region. Since some of the deductions made in this paper have a direct bearing upon the subject we are now about to discuss, these may be briefly stated. In the first place, forests transpire vast quantities of aqueous vapor into our atmosphere; the result of a careful estimate made by the writer showing that a forest will give off, during the vegetative period, twice the amount evaporated from an equal area of open ground. It is a fact of prime importance, too, that transpiration from the forest takes place at a more uniform rate than evaporation from bodies of water and the soil: hence even in time of drought, when streams and shallow waters have dried up and evaporation from the soil is at a minimum, transpiration continues unremittingly to furnish atmospheric moisture in order to keep up, as nearly as possible, a uniform proportion of this substance in the air. There are various other ways in which forests affect local climatic conditions which are better understood. I refer to their power to intercept wind-currents, and their influence upon temperature, rendering

summer less sultry and winter somewhat milder. It should be stated that, for hygienic purposes in general, the percentage of forest-growth should be at least twenty-five.†

It naturally follows from the above that where humidity is desired, within due limits, in the treatment of consumptives and other invalids, forests afford one of the readiest and most pleasant means of attaining this end. As to the value of moisture in the air in the treatment of consumption, there is diversity of opinion. Most of the more recent writers have pronounced very strongly in favor of high and dry climes as offering superior advantages over medium or low elevations where considerable moisture prevails. Now, whatever may be urged against humidity from other sources, there are certain facts which go to prove that a fair proportion, or even a considerable amount, of moisture derived from plant-life is generally most desirable in the climatic treatment of a large class of invalids, particularly consumptives. It is important to have at all health-stations a dry soil, free from miasm.

It is unfortunate for science that the term "dry air" is so extremely vague in its meaning. Writers have the habit of speaking of an atmosphere as dry, when in reality it contains considerable moisture. For example, the air of Atlantic City is spoken of as "dry and bracing," as is also that of Denver, Colorado. Now, let any one take the meteorological reports of these places for the five winter months ending with March, as the writer has done, and reckon from Glaisher's table their *absolute* humidity. It will be found that the former place contains nearly twice as much, by weight, of vapor per cubic foot of atmosphere, as the latter.

The lack of this substance (aqueous vapor) in the atmosphere, an important office of which is to intercept terrestrial radiation, is the one great cause of the extreme diurnal range of temperature at high altitudes; and in general the greatest objection to the climate at very high elevations is the great range in daily temperature.

But let it be understood that the writer has no intention of denying the fact that certain invalids, particularly some cases of chronic phthisis, in whom a good degree

* Read before the Alumni Association of the Auxillary Department of Medicine, University of Pennsylvania.

† Forests: their Relation to Climate and Rainfall. *American Naturalist* for February 2, 1882.

of strength is retained, are not benefited, or even apparently restored, by a prolonged residence at high altitudes where the air is much dryer than the above standard indicates, but even in these cases the humidity arising from the presence of forests would, at least, not be objectionable, for the aqueous vapor emitted by plants may be assumed to be widely different from that evaporated from inorganic matter and from bodies of water, being purified and endowed with medical properties by passing through the plant. No doubt can, we think, be entertained as to the correctness of this view, for it is quite reasonable to suppose that with the rapid transpiration of aqueous vapor from a plant, as shown by our investigations, there are active principles peculiar to the species floating in the life-current of the tree or plant, which also assume the gaseous form and are held in solution by the vapor given off, thus medicating it. The observation has been made that children playing among our common poppy-plants will manifest signs indicating the physiological effects of opium, which must have gained entrance to the system through the inhaled air. We know that the atmosphere of the pine and hemlock forests is impregnated with the vapor of turpentine, the value of which for giving relief to the pulmonary invalid has long been established. We here get the local action of the terebinthinate principles from nature's great atomizer upon the diseased respiratory tract. Doubtless all the species belonging to the large order of Coniferæ give off medicinal agents. It is highly probable that there are other useful substances evolved which have not, as yet, been detected.

Forests, therefore, are nature's faithful and perfect atomizers, whose vapors are, perhaps, capable of an equally high purpose, respecting their therapeutic application, with those which are the product of the ingenuity of man.

A Vienna physician, Dr. Schrieber (address before the Austrian Meteorological Society), states that the turpentine exhaled by coniferous plants possesses to a greater degree than any other known substance the power to convert the oxygen into ozone. Of this remarkable substance we know but little definitely, and some of the hypotheses brought forward as to its nature appear almost wild. It can also be produced by electricity, and in various

other ways. It is found in the air to the windward of a city, but not to the leeward. Ozone constantly purifies the air of organic putrescent matter through its powerful oxidizing properties, and, according to Pettenkofer, it cannot be detected in our best-ventilated dwellings. If, then, the pine exhalations have this power to convert oxygen into ozone, pine forests may for the present be looked upon as furnishing to the invalid advantages not, perhaps, possessed in the same degree by other forests. But may we not reasonably presume that the exhalations from species of forest-growth other than the pine have, to a certain extent at least, this same power to convert oxygen into ozone?

Keeping in remembrance the foregoing facts concerning the exhalations from our forests, who will question that forest humidity is not of far greater hygienic value to the invalid than moisture from other sources? And who will say that forests, by increasing and maintaining an equable standard of atmospheric moisture at these resorts, especially in inland districts, will not increase their advantages?

As already indicated, from twenty-five to thirty per cent. of woodland is sufficient for hygienic purposes in general, but a much larger proportion is required at health-resorts, so as to meet the indications of the consumptive and other invalids. In order to arrive at conclusions which are to be reliable in the choice of a climate or forest resort, it will be necessary to distinguish, in a general way, between the different forms of disease of the respiratory tract and consumption in particular.

Perhaps the majority of cases of chronic phthisis develop very gradually, the only symptom at first being slight cough, which attracts little or no attention. By and by there is slight expectoration, the appetite fails, the pulse is quickened, and bodily strength diminishes. These symptoms persist and become intensified, with feverish excitement and perceptible falling off in flesh. Frequently about this period the doctor is consulted, and on making a physical exploration of the chest finds evidences of the commencement of pathological changes in the lungs so characteristic of the disease in question.

Then, there is a catarrhal form of consumption, with inflammatory action, implicating the bronchial and laryngeal mu-

cous membranes, originating usually in colds and occurring in raw, cold climates. Another form of the disease is known as laryngeal phthisis, in which the chief difficulty rests with the larynx.

The above kinds of cases, when not attended by marked hectic fever and not too far advanced as regards the local disease, or, in other words, in the early stages of the affection, including cases of chronic bronchitis and laryngitis, would be greatly benefited by a forest atmosphere with just sufficient moisture to make it bracing and give it something of a soothing character in a hilly district. By increasing the proportion of forest area of a region to from fifty to seventy per cent., according to elevation, we get an atmosphere of about the requisite humidity. It is easy to perceive how such an atmosphere is capable of exerting a beneficial influence on the diseased mucous membrane of the air-passages through the continuous gentle atomization of this medicated vapor. The air of the wilderness also benefits by promoting sleep, increasing the appetite, and improving nutrition. It is, however, impossible, in a disease presenting so many complications and peculiarities as the one under consideration, to lay down a positive rule, which shall be applicable in all cases, as regards the percentage of woodland. The object here is to give a general idea of the proportion of forest-growth and character of climate desirable in the various forms of consumption. The choice of a particular locality must be governed largely by the peculiarities of individual cases. The earlier the patient is sent to his new abode the better, and the invariable practice among physicians should be to propose a change as soon as they are convinced that the monster disease is developing or even threatening.

There is another large class of consumptive invalids, demanding a somewhat moister and milder climate than those above described. To these we shall now briefly allude. They comprise nearly all cases of whatever form of the disease far advanced, or what is termed by various authors the third or last stage of the disease, with extensive lesions or excavations in the lungs, accompanied by hectic fever, great weakness, and emaciation. To this category, also, belong those patients in whom there is no correlation between the almost complete loss of strength and the

small portion of the lung affected. Now, persons with these latter stages of phthisis pulmonalis should not be sent to high altitudes with the vain hope of assisting their cure, since such invalids cannot lead a nomadic life without aggravating their condition. On the contrary, they need a genial climate to invite them out of doors, where they can exercise in the pure forest air with more or less humidity, according to peculiarities of the disease and individual, encircling the feverish frame, which often renders such valuable service in adding to the patient's comfort, an office not to be despised in these usually hopeless cases. Moreover, an atmosphere of this character would do good service in alleviating urgent symptoms, as troublesome cough, irritability of nervous system, etc., and thus aid in delaying, if not arresting, the onward march of the disease to a fatal issue. This class of invalids, therefore, require a greater percentage of forest-growth than the former group, from seventy-five per cent. upward, and a milder temperature, the effect depending also to a great extent upon the proximity to the coast and degree of elevation.

We have examples of winter forest resorts adapted to the treatment of cases of every description, throughout some of our Southern States, particularly South Carolina and Georgia. From Aiken, South Carolina, latitude about 33.5° , in a southeasterly direction all the way to Thomasville, Georgia, latitude about 30.5° , at an elevation ranging from five hundred to two thousand feet, there are abundant pine forests. Along this extensive wooded region already there are to be found many winter health-stations, among which we may mention Eastman's and Mount Airy, near Macon, South Carolina, and Thomasville, in South Georgia. These and other places which have been quite recently brought to notice have proved to be exceedingly operative in their good effects upon pulmonary invalids, who, it appears, are fast giving up the low moist places of the Florida coast, and the popular tide now is towards the pine forests of the uplands. The soil is dry and sandy; the atmosphere contains a fair proportion of humidity, is impregnated with the balsamic vapors from the pine-tree, and is bracing and strikingly agreeable to consumptive invalids.* Nu-

* For some of the main facts relating to this region I am indebted to my friend Dr. R. S. McCombs.

merous instances have been reported by physicians to the journals exhibiting the value of a residence at these health-stations.

Mechanically, forests would afford shelter from objectionable cold winds, which often prevail at winter resorts, and subjects who are greatly debilitated are usually very injuriously affected by them. On the other hand, when not contra-indicated by peculiarities, a moderately strong wind is supposed to be beneficial to the consumptive. The trees should not be situated too near the dwellings at these health-resorts, on the east and west sides, as the morning and evening sun are most valuable. We have no intention of underrating the importance of sunlight to the invalid, and would recommend his moving among ornamental shrubbery and flowering plants mornings and evenings, where he can simultaneously bask in the sunshine and inhale the vapors transpired from nature's small atomizers.

As every one knows, owing to the prevalence of damp and cold weather during the winter season in our latitude, we have no suitable climate for our patients; and hence those who are unable because of their condition, or for pecuniary or other reasons, to make the journey to the forest resorts at the South, the writer would particularly advise to stock their living- and sleeping-apartments with thrifty foliage and flowering plants having no objectionable fragrance. The subject of the influence of house-plants has been elsewhere discussed.* Suffice it to say in this connection that the writer has, by means of plants, entirely changed the atmosphere of the consumptive's apartments, rendering it most comfortable and agreeable and with undoubted benefit to his condition. It has been found also from personal investigation that those engaged in the pursuit of gardening, and florists, who work and live, many of them, from ten to fourteen hours daily in our hot-houses, are, even if predisposed by inheritance, rarely if ever attacked by consumption. And instances have been reported by others in confirmation of these facts, where persons strongly predisposed to phthisis have escaped the disease in consequence of having become enthusiasts in the cultivation and care of house-plants.

Having indicated localities appropriate

* Hygienic and Therapeutic Relations of House-Plants, Philadelphia Medical Times, May 8, 1882.

for the invalid during the winter season, it remains to be answered, where shall he go during the warm season? During the spring, summer, and autumn months till the approach of the first cold weather, some forest resort in our own latitude at Philadelphia would be all that could be desired for the large proportion of pulmonary troubles described. The place selected should possess certain natural elements as regards topographical arrangement and surrounding scenery. The soil, as already stated, should be dry, and hotel accommodations good. Such localities are to be found in great numbers throughout the Eastern and Middle States, and particularly among the wooded hills and mountain-ranges of our own Keystone. It might be well to mention that in the selection of a summer resort for the invalid the previous classification of consumptives and the amount of forest-growth required for their climatic treatment should be consulted. In general terms, we may say here that the places best suited for those whose strength will admit of a nomadic life, and who usually belong to the first class we have described, are upon mountainous elevations with varied picturesque scenery, since exercise in these cases is of paramount importance. Here the varied panorama would afford pleasure to the senses, while at the same time nature's great remedy, forest humidity, exerts a curative influence. Subjects who are greatly debilitated with extensive lung-lesions belonging to the second class described, whose strength would not allow of an active roving life among the hills, should lead a more quiet existence, in a milder climate, at a lower level and at a place sheltered from strong winds. If the invalid is unaccustomed to a varied social life, a stay at some properly-located farm-house affording comforts and a good *cuisine* would answer every purpose. He should spend as much time as possible in the woods, which ought to be conveniently located. For such invalids there should be opportunity for short excursions in the environs. During the hottest season this class of invalids would find densely-shaded nooks add greatly to their comfort, for the trees, as shown in an article elsewhere published, have a temperature several degrees lower than the surrounding air, thus to a degree absorbing the heat of the body. Moreover, the slight draught always caused by shade in

the open air still further increases its cooling effect.

In this connection the increased advantages of camp-life (during five or six months of the year) might be alluded to. We live more than half our time in-doors, often breathing a more or less vitiated atmosphere, and the invalid boarding at a hotel or farm-house is not receiving the full benefit of the forest air for more than about ten hours daily, while the one in his tent is almost constantly breathing the unpolluted and invigorating air of the forest.

Thus it will be seen that it is rarely necessary for the sufferer from consumption to be separated very far from the endearing relations of home for the greater part of the year, and he would receive as much benefit as those undertaking to reach noted resorts long distances away, if not more,—for we must take into account the injurious consequences of long journeys, particularly in subjects who are greatly debilitated.

The air of the forest, besides being very useful to patients with pulmonary disease, including consumption, chronic bronchitis, and laryngitis, is highly beneficial in run-down conditions from other causes, as over-work, and during convalescence from fevers and other affections. It is stated by Dr. Oswald (*Popular Science Monthly* for August, 1877) that scirrhus affections of the skin disappear under the disinfecting influence of the forest air. The same author quotes from Dr. Brehm, who has observed that "ophthalmia and leprosy, which have become hereditary diseases not only in the valley of the Nile, but also in the tablelands of Barca and Tripoli, are utterly unknown in the well-timbered valley of Abyssinia, though the Abyssinians live more than a hundred geographical miles nearer to the equator than their afflicted neighbors."

We wish to devote some little attention to the subject of the sanitary influence of public squares on the atmosphere of cities. It will be remembered that we have shown that the action of forests on the atmosphere is not extended to any great distance around,—in other words, is local: hence in large cities quite a number of squares of the size of those in Philadelphia would be needed to produce the effect desired. The proportion in squares of the surface-area should not be less than has been laid down in the rule given for ordinary hygienic purposes,—namely, one-fourth. It

is evident that this would be impracticable in the older cities already densely built up; but here something like the proper ratio would be attainable by the more general planting of trees on either side of the thoroughfares. Our conclusions respecting the influence of forests upon local climate apply, with few exceptions, in the present instance. The square may be looked upon as a copy of a forest of reduced size. For obvious reasons, their effect in mitigating extreme cold by breaking the force of strong wind-currents is here very slight; but the trees, by causing shade and transpiring aqueous vapor, have a delightful cooling effect, and thus tend to mitigate the oppressive heat of our cities. The most important element of their influence, however, is the power to increase atmospheric moisture during the warm season and to purify the air by the constant atomization of this vapor; for plant-vapor doubtless is capable of exercising a powerful influence upon the salubrity of a vitiated city air. Undoubtedly, then, public squares have a sanitary bearing worthy of the serious consideration of our sanitarians.

These public grounds should be densely planted with forest-trees and ornamental shrubbery, some of our squares in Philadelphia having only about half the requisite number. By thus improving them they would become of greater hygienic value. They possess the advantage of being accessible to all classes; and, though the masses would be unable to frequent them to any extent, if properly located in relation to one another their influence would be generally felt.

But trees in our streets, if everywhere present, would have a still more potent influence. The aqueous vapor and other substances evolved through the function of transpiration would render the air of the street—which is the air we breathe—fresh and pure and bestow upon it health-giving qualities; and whatever effect trees have in producing ozone is of vital importance in this connection, for, as already pointed out, the action of this substance is thoroughly to disinfect the atmosphere. Thus, by means of ventilation, a purer and wholesomer atmosphere is admitted into our dwellings. May not the presence of a sufficient number of trees in our thoroughfares have the effect of removing from the atmosphere substances likely to become sources of disease? And,

if our premises are correct, might we not reasonably hope to lessen thereby the number of cases of consumption?

In the light of the present views, trees should be planted in our streets, not only in some places, but universally, and our public squares should be improved by increasing the amount of vegetation in them. Apart from the beneficial influence upon the atmosphere, it must be noted that this would add greatly to the natural beauty and attractiveness of a city.

Finally, we desire to say a word in regard to Fairmount Park and its merits as a sanatorium. Its many broken ridges and ravines covered by a luxuriance of wild vegetation present a grace and grandeur of natural topography and scenery rarely met with. Its drives, winding in graceful curves on either side of the Schuylkill River, are lined with arboreal vegetation, creating many shady nooks, which are so much enjoyed by the pleasure-seeker, while they afford comfort to the invalid. We here have those natural elements so well adapted to relieve *ennui* and entertain the mind with agreeable impressions. Here nature has also bestowed with a lavish hand floral life, presenting inducements to the healthful study of botany. There is perhaps sufficient vegetable growth in our Park to maintain something approaching to a healthful standard of humidity in the air in summer and impart to it the health-giving qualities in general. The air is cool and highly agreeable during the vegetative period, as thousands of our citizens would gladly attest. With these elements of climatology present, Fairmount Park certainly is entitled to the rank of a sanatorium of no mean value; and yet its efficacy might be greatly enhanced by the more extensive cultivation of trees and shrubbery.

LARGE DOUBLE SCROTAL HERNIA.

Read before the Clinical Section of the Philadelphia County Medical Society, January 31, 1882,

BY W. R. D. BLACKWOOD, M.D.,
Physician to St. Mary's Hospital.

THE patient, John R., has suffered from this enormous hernia for forty years, during twenty of which it has maintained its present size. Its dimensions are to-night, from the pubis to the anus, thirty-four inches; laterally, twenty-nine inches;

and at times, from inattention to diet, it assumes still larger proportions. Indulgence in potatoes increases its bulk, but no other starchy food has this effect. He is 80 years old, yet does really hard work, and within some ten years past has frequently carried a bag of wool of from one hundred to two hundred pounds' weight. He went through an attack of gastritis, with much abdominal irritation, two months ago,—enough to have killed him, in my opinion; but by simple treatment he readily recovered, and is now in robust health. I exhibit him as a curiosity as to size of rupture, ability to work at hard labor, good condition in one so aged, and as a sample of extraordinarily shapely build of cranium and well-preserved intelligence in a high degree, considering his station in humble life.

SPECIMEN OF MALIGNANT ORBITAL GROWTH.

Read before the Clinical Section of the Philadelphia County Medical Society, January 31, 1882, and presented

BY ALBERT G. HEYL, M.D.,
Ophthalmic Surgeon to the Episcopal Hospital.

BRIDGET —, æt. 60, presented herself at the Eye and Ear Dispensary of the Episcopal Hospital December 27, 1881. The sight of left eye was lost about a year and a half ago. The failure of sight was rapid but gradual. Thus, the patient noticed at the time that on closing the right eye she could see objects across the street; but on repeating the experiment two weeks afterwards she could only see the motion of the hand. About five weeks ago the eye became red and painful; it began to grow large, and in about two weeks became quite prominent.

Status Præsens.—Left eye: lids œdematous and do not cover the eyeball; the layers of cornea almost down to the membrane of Descemet absent. Doubtless they have sloughed away. No staphylomatous protrusion to be seen about the eyeball, which is pushed forward and downward. Conjunctiva strongly injected. In the upper conjunctival fornix some irregular prominences noted, due to solid subconjunctival masses. Near by, a congeries of enlarged and varicose conjunctival vessels. No pulsation in the orbital contents. The nasal cavities, so far as can be seen, are free from abnormal growths. The vision of the other eye is good; the nerve healthy. Scattered over the fundus are a number of white masses, situated probably in the external layers of the retina. The edges are well defined, and they vary in size, the largest being perhaps one-fifth the size of the papilla. No other abnormality observed.

The patient was admitted to the ward. The



exophthalmos evidently increased during the next few days, and the diagnosis of a malignant orbital growth, probably a glio-sarcoma, was made. The removal of the growth was proposed to the patient, who willingly acquiesced. The operation was performed in the usual manner. The integrity of the roof of the orbit was tested after the manner recommended by Billroth, and found to be maintained. After dividing the external canthus and the conjunctival fornix, the scissors were passed along the outer orbital wall, separating a mass of encephaloid material. Immediately behind the eyeball the scissors penetrated a cavity filled apparently with clotted blood. The bleeding being profuse, the eyeball and as much as possible of the growth was removed. Bleeding was abated by hot water; the walls of the orbit were cleared of the remaining masses of the growth. The optic nerve, which had been cut off close to the optic foramen, was surrounded by diseased tissue, not removable by the scissors. To this a strong solution of chloride of zinc was applied. The orbit was dressed with cotton soaked in solution of boracic acid. Nothing special occurred in the further course of the case, except that traumatic diphtheritis set in, starting apparently on the cut surfaces of the lids, and spreading thence into the orbits.

The clinical relations of this case, interesting though they may be, cannot be dwelt upon at present, as the specimen is simply submitted for microscopic examination.

REMARKS ON INTESTINAL PARASITES.

Read before the Clinical Section of the Philadelphia County Medical Society, January 31, 1882.

BY F. P. HENRY, M.D.

THE subject of human parasites, upon which I was requested, at rather short notice, to make some remarks this evening, is so comprehensive that, were I to undertake to refer to them all, within the limit of time allotted me, I could do little more than mention their names and those of the diseases to which they give rise. I have therefore decided to confine myself to a few general observations upon those varieties of worms which are most frequently found in the intestines of man. Of these the principal are the *Ascaris lumbricoides*, the *Oxyuris vermicularis*, and the different kinds of tape-worm. The first two are by far the most common, and, owing to their universal prevalence and the readiness with which specimens are obtained, we are thoroughly acquainted with their anatomy both

as embryos and as mature individuals. Nevertheless, the most competent helminthologists acknowledge their complete ignorance of the manner in which the lumbricoid worm is first introduced into the system. Leuckart has fed dogs, pigs, rabbits, and mice with the ripe eggs of the *Ascaris lumbricoides*, and has made similar experiments on man, in both cases with negative results. It is probable that these worms are introduced into the stomach in an embryonic form. Niemeyer has suggested the possibility of their finding entrance into the system through the use of bad flour, and refers to the observations of Stein, who found entozoa in weevils.

The *Oxyuris vermicularis* is developed directly from the egg, and this is one of the reasons of its persistent stay in the intestines, for, by self-infection, the eggs are constantly swallowed by children and others who are careless in regard to habits of cleanliness. Self-infection is caused by scratching the anus and neighboring parts and subsequently conveying the eggs into the mouth. This may happen in the case of persons who are tolerably cleanly in their habits; for Zenker has frequently found mature eggs under the nails of those afflicted with these parasites.

It is thought by many that the principal habitat of the *Oxyuris* is the rectum, and this theory has led to a treatment that is at best but palliative. "The generally-prevalent idea," says Heller, "and that which is upheld in all the books, that the *Oxyuris* inhabits the rectum, is entirely false." The mature males inhabit chiefly the small intestine; the pregnant females chiefly the cæcum, where they remain until they are distended with eggs. They then descend to the rectum and deposit their eggs. The young, when hatched, immediately migrate to the small intestine.

The treatment of the *Oxyuris* recommended by Heller is one of saline catharsis, and of enemata so administered as to reach the cæcum. The cathartic part of this treatment is based upon the observation that in choleraic conditions vast quantities of parasitic ova are often expelled. The appearance of these ova in the stools of cholera patients led to a curious blunder both in Germany and England, where they were regarded as a fungus peculiar to that disease. Another species of worm, the *Trichocephalus dispar*, having been frequently found in the stools of typhoid-fever

patients, has been regarded by some as the cause of that affection. The symptoms due to the presence of the round worm scarcely suffice for a diagnosis. There can be no doubt that in some cases grave disturbance of the nervous system, in others intestinal catarrh, is caused by them, while in perhaps the most numerous class of cases they give rise to no symptoms that cannot be referred to ordinary causes.

Formerly it was the custom to attribute almost every digestive disorder occurring during childhood to the presence of worms. Now there appears to be a tendency to go to the opposite extreme, and to deny that they are the cause of any symptoms whatever. Heller remarks upon this tendency, and warns against it, although, says he, "there is little likelihood of our going so far as to look on them as the guardian angels of children, ever ready to help them in their time of need."

The treatment of lumbricoid worms is too well known for me to comment upon it. There is one point concerning it, however, which seems to me of some interest, and that is the fact that fractional grain doses of santonin retain their full activity after having passed through the stomach. Many physicians are sceptical as to the effect of small doses of drugs administered with a view to produce an alterative effect upon the small and large intestine; but facts like that above given should induce them to be cautious about rejecting any remedy upon mere hypothetical grounds.

The most interesting fact concerning the tape-worm is the complexity of its mode of existence. Its ova, being discharged from the intestine of man, are swallowed by another animal, in whose tissues they reach the larval stage of their existence. These larvæ, being in turn swallowed by man, reach the mature stage of their development in his intestine. This cyclical method of growth is in the highest degree opposed to the existence of the parasite, and is counterbalanced by its enormous fertility. According to E. Wagner, "in the case of the tape-worm, out of eighty-five millions of eggs, only one is developed again into a tape-worm."

Though many species of tape-worm are known to exist, four only are of interest and importance to the practical physician: these are, *Tania solium*, *Tania medio-cancellata*, *Tania echinococcus*, and *Bothriocephalus latus*.

Of these, the designation of the first is very ill chosen; indeed, I have found it impossible to ascertain what Linnæus intended by it. If, as some think, he meant solitary,—an absurd supposition, in my opinion,—he must have been mistaken as to the habits of this parasite; for when a number of tape-worms inhabit the intestine they are almost invariably of the *solium* variety. I have consulted a distinguished classical scholar of this city, a member of our own profession, who acknowledges his inability to interpret the term *solium* as used in connection with *Tania*. Such, however, is the weight of authority that, notwithstanding the obscurity surrounding this word, I shall continue to stultify myself by its employment.

Heller objects to the term *medio-cancellata* applied to the second variety, on the ground that it is founded upon an erroneous anatomical idea, and employs instead the term *saginata*, stout or well fed, which it had originally received from Goeze.

The diagnosis as to the kind of tape-worm present in a case may be made by inspection of the segments voided per rectum. It is important that the variety of worm be clearly ascertained, for nervous symptoms occurring in an individual who is or has been the host of the *Tania solium* should lead to the suspicion of the presence of the tape-worm larva, the *Cysticercus cellulosæ*, in some portion of the nerve-centres.

The chief seat of the *Cysticercus* is the intermuscular connective tissue, after which come the brain and the eye. In the latter situation Von Graefe was able in four cases to watch the development of the entozoon from the time of its appearance beneath the retina, which it pushes before it, causing a more or less extensive detachment, until its eruption into the vitreous humor, which, in the majority of cases, it makes its seat. An interesting case of intraocular cysticercus recently occurred in the practice of Dr. James E. Garretson, of this city, and is reported by Dr. C. S. Turnbull in vol. xii. of the Transactions of the State Medical Society, to which I refer those interested in the subject. Another case of suspected intraocular cysticercus was recently exhibited by Dr. Garretson to the Pathological Society of Philadelphia. I had an opportunity of seeing it, and was struck with the remarkable similarity, both in size and shape, which it bore to a cysti-

cercus. In reply to a note asking for the subsequent history of this case, Dr. Garretson informs me that he has lost sight of the patient.

When the *Tania solium* and its cysticercus are present in the same case, what is the source of the latter? This is an interesting question and one which has received different answers. Self-infection would be the answer of Heller, while Roberts considers that they are derived from independent sources. The former method of the introduction of the cyst into the solid tissues of one who is the host of a tape-worm seems to me the most probable. Self-infection may occur by detached segments being forced upward, during the act of vomiting, into the stomach, where, undergoing digestion by the gastric juice, the eggs are liberated and are developed into cysticerci. Or it is perhaps permissible to suppose that such action may take place in the upper portion of the small intestine, within the sphere of the pancreatic secretion, which fluid, as is well known, contains a ferment called trypsin, which is capable of digesting proteids in an alkaline medium. The practical inference is to avoid as far as possible, in our treatment of those afflicted with *Tania solium*, such drugs as are likely to excite emesis. This is only important in the case of *Tania solium*, as the cysticercus of no other variety is known to infest the tissues of man.

The *Tania echinococcus* is a parasite of the dog, existing only in its larval state in the human system. It possesses great interest to the pathologist, chiefly on account of the fact that in one of its forms, *Echinococcus multilocularis*, it was constantly mistaken for colloid cancer up to so late a period as 1856, when Virchow pointed out its true nature.

The so-called hydatid cysts are rarely met with in this country. But two specimens have been presented to the Pathological Society of Philadelphia, one by the late Dr. J. B. Mustin for Dr. Nancrede, recorded in vol. iii. of the Transactions; the other by Dr. Hutchinson, recorded in vol. iv.

An exceedingly rare specimen of *Tania*, the *Tania nana*, was exhibited by Dr. E. A. Spooner, of this city, before the College of Physicians in 1872. As far as I am aware, it had been previously observed only by Bilharz in Egypt. Heller, who had seen an account of Spooner's specimen in

a German periodical, was inclined, in the absence of a minute description of the head of the animal, to regard it as a specimen of *Tania flavopunctata*, which it is said to resemble. In length, however, and in the number of its segments, Dr. Spooner's specimen accurately corresponds with the account given by Bilharz of the *Tania nana*. I am informed by Dr. Spooner that the patient who passed these worms has remained in good health ever since.

There are other intestinal parasites to which I would refer, did time permit. Among the most interesting of those remaining are the *Trichina spiralis* and the *Anchylostomum duodenale*. In countries where the latter prevails, the cachexia to which it gives rise is liable to be confounded with pernicious anæmia; and even in this country I would suggest that a careful search be made for this parasite in all autopsies in cases of supposed pernicious anæmia.

I have placed under the microscope the following specimens: *Trichinae*, free and in muscular tissue; *proglottis* of *Tania solium*, *Cysticercus cellulosæ*, *Acarus scabiei*, and *Echinococcus* brood capsules, for the use of which, as well as for that of the microscopes, I am indebted to Mr. Walmsley, of the firm of R. & J. Beck.

OBSERVATIONS ON EXAMINATIONS FOR THE TUBE-CASTS OF BRIGHT'S DISEASE.

Read before the Clinical Section of the Philadelphia County Medical Society, January 31, 1882,

BY JOS. G. RICHARDSON, M.D.,

Professor of Hygiene and Demonstrator of Histology in the University of Pennsylvania.

MR. PRESIDENT and Fellow-Members of the County Medical Society,—I feel almost as if I owed you an apology in advance for attempting to interest you in the subject of the tube-casts of Bright's disease, and my justification is that our energetic Committee on Clinical Pathology has laid it upon me as a duty, with such urgency that I felt bound not to refuse to do my best towards making a few remarks upon this subject not absolutely wearisome.

Of course I need only just remind such an audience as I see before me that tube-casts are solid cylinders formed in the uriniferous tubules of the kidneys during the course of certain acute maladies, such as

diphtheria, scarlatina, typhoid fever, or yellow fever, and in the group of more chronic renal affections entitled generically Bright's diseases. These casts differ in size, structure, and general appearance, and constitute, I think, very important aids in recognizing the form and stage of Bright's disease. Their diagnostic value has lately been contested by the famous French authority Prof. Charcot, and by others, but, for reasons which I shall give you presently, I think these gentlemen are mistaken in their opinion.

The first specimen I have to submit to your inspection is a section of gouty kidney, beautifully double-stained by my friend Dr. Geo. A. Piersol, which shows numerous casts filling the calibre of uriniferous tubules, and so obstructing them that little or no urine could pass, thus contributing in a purely mechanical manner to the scanty flow of the renal secretion which often occurs in Bright's disease.

There may also be seen a contracted Malpighian corpuscle, the vastly thickened wall of which displays the fibrinous exudation it contains, stained the exact blue tint of the tube-casts which plug the uriniferous tubules. Specimen No. 2 exhibits "small hyaline tube-casts." No. 3, "pale and dark granular tube-casts." No. 4, "epithelial tube-casts." No. 5, "large waxy tube-casts," some three-hundredth of an inch in diameter. No. 7, "granular cast, with pus-corpuscles attached."

The search after tube-casts should be much more thorough than is generally made, and frequently a half-hour's examination will be rewarded with but one or two faint hyaline casts. I have found tube-casts abundant in the urine of a patient with diphtheria two days after the commencement of the attack, so that they do sometimes, at least, give us very prompt warning of the onset of disease. Including a case now under my care, in which the diagnosis is not positively established, I have seen three cases of Bright's disease in which I detected casts, whilst there was absolutely no albumen in the renal secretion.

The exact diagnostic value of the tube-casts in any particular instance must be determined by a careful consideration of the history, inherited tendencies, general symptoms, etc., as pointed out in the standard text-books upon the subject.

The new points to which I ask your at-

tention may seem at first sight too insignificant to be worthy of notice, yet I venture to submit them, because when combined with other little facts, resulting from your own experience, or that of our professional brethren elsewhere, they may contribute to the advancement of true medical science, for which we are all laboring so earnestly.

First, in regard to mucous casts, which often puzzle or actually mislead beginners in microscopy: these are long, often branched, rarely epithelial in their character, but sometimes having leucocytes attached to their surfaces. In my experience they generally shrink up in the acetate of potash solution, and this may be recommended as a diagnostic test for them. As they are apt to appear in cases of irritation of the bladder, it has occurred to me that they may proceed, when found in the urine of male patients, from the ducts and follicles of the prostate gland and perhaps of the urethral glands.

Second, I propose the use of osmic acid to demonstrate the existence of slight fatty degeneration in cells of renal epithelium attached to "epithelial casts," also the employment of aniline solution to bring into view very faint and doubtful "hyaline casts," which might otherwise escape observation.

Third, I claim that we can, by a careful consideration of the number of the empty "cell-walls" of red blood-corpuscles attached to the various forms of tube-casts, gain important information occasionally as to the activity of the renal congestion in Bright's disease (see *American Journal of the Medical Sciences*, January, 1870).

Fourth, it seems probable that many cases of Bright's disease escape detection every year, simply because no microscope is convenient, at least until after putrefaction renders the examination difficult or unreliable. I therefore invite attention again to my method of preserving tube-casts, and advise that in every instance of possible renal disease, where a thorough investigation is not made at once, a couple of fluidrachms of the sediment from the urine should be poured into a small vial containing about an equal bulk of dry acetate of potash, which will perfectly preserve tube-casts, if it happen to contain any, for careful study at any future time.

Fifth, having observed that many tube-casts in the urine of yellow-fever patients

are made up partly or wholly of fungous spores (micrococci), and also that the kidneys of some persons dying of yellow fever had their uriniferous tubules generally obstructed by plugs of micrococcus, I advanced the theory at Richmond in 1878 that the suppression of urine so common in fatal cases of yellow fever was more or less mechanically due to this occlusion of the renal tubules. Such a doctrine was rendered highly probable by the observations of Prof. Orth, and gains additional confirmation from the recent very important investigations of Prof. H. C. Wood and Dr. Formad upon diphtheria.

Lastly, believing as I do that some light may be thrown upon nearly one-half of our cases in general practice by microscopic examination of the urine, sputum, blood, etc., and that therefore no physician can honestly do his whole duty to his patients without frequent resort to Medical Microscopy, I urge that every practitioner of medicine should, in default of a better instrument, provide himself with one of Beck's little ten-dollar microscopes, which, as I show you here, will display even "pale granular tube-casts" with distinctness. Perhaps this recommendation will be severely criticised, but my excuse for making it is, that it is better to discharge a duty imperfectly than to neglect it utterly, and also that every doctor who has once found out how much assistance even such a feeble aid gives him in his practice will very soon resolve to benefit himself and his patients by procuring a good microscope, although he may at first be compelled to borrow the money to pay for it.

3238 CHESTNUT STREET.

AN ABSTRACT OF REMARKS ON THE PRACTICAL SIGNIFICANCE OF CRYSTALLINE AND OTHER URINARY SEDIMENTS, EXCEPT TUBE-CASTS.

Read before the Clinical Section of the Philadelphia County Medical Society, January 31, 1882,

BY JAMES TYSON, M.D.

IN the first place, no crystalline or other urinary sediments are of any significance unless they are present in urine at the time it is passed or immediately thereafter. Nor can the occasional appearance of these sediments have any significance. They should occur continuously, or at least for several days in succession.

Secondly, of the urinary sediments referred to, I will consider only the following:

1. *Uric acid and urates.*—They indicate insufficient ingestion of fluids, imperfect oxidation of the proximate principles which go to make up food, or excessive acidity of the urine as the result of which they are precipitated. Such conditions may result in the undue accumulation of these substances in the blood, or their deposit as sediments in certain parts of the urinary passages, as the pelvis of the kidney, ureters, and bladder, in such quantities as to form calculous aggregations with the symptoms which usually attach to them.

The former—that is, undue accumulations in the blood—gives rise to gout or the condition to which the name lithæmia has been applied, and of which the symptoms have been well described by Da Costa in a recent paper.*

Uric acid is very easily recognized by the rhombic shape or some one of its variations: if there is any doubt about any of these forms, it may be removed if it be remembered that uric-acid crystals are invariably stained yellow, which is true of no other crystalline sediment of the urine except the urate of ammonium, which exists only in spherules similarly colored, but by their shape easily distinguished. Amorphous urates of sodium and potassium, which frequently accompany uric acid, may be recognized by their pink, fawn, or brick-dust hue, and their solubility by warmth. In form they are not distinguishable from any other amorphous matter.

A good method of dissolving amorphous urates—which often fall in cold weather during the transit of a specimen from the patient's house to the doctor's office, and make the detection of other more important sediments difficult—is to place the bottle for a few minutes in a pitcher of hot water.

The *treatment* of uric-acid and uratic sediments is by diluents of an alkaline or even neutral reaction. The citrates, acetates, and carbonates of the alkalies, *freely* diluted, in most instances speedily dissipate these sediments. Even the use of a quart of plain water in addition to that ordinarily ingested in the twenty-four hours will have the desired effect. And I am certain that

* American Journal of the Medical Sciences, October, 1881.

the effect of the chemically-indifferent mineral waters which are so much advertised and consumed in this country is due to the dilution they afford.

With regard to the solution of uric-acid calculi in the urinary passages, the experimental researches of Roberts, of Manchester, England, have shown that by the administration of alkalies it is at least possible to prevent them from growing larger. Elimination by aperients, especially by the natural aperient mineral waters, as Hunyadi and Friedrichshalle, is efficient in relieving the kidneys of a part of their work.

2. *Sediments of oxalate of lime*, which are readily recognized by their octahedral and dumb-bell forms, are also the result of mal-assimilation, indigestion, or the ingestion with the food of substances containing large amounts of oxalic acid, as the pieplant, sorrel, and tomatoes. Their significance also depends upon their permanence. If permanent or sufficiently abundant, they may cause irritation of the urinary passages similar to that resulting from uric-acid accretions.

The treatment of oxalate-of-lime sediments is that of the mal-assimilation and indigestion of which they are the symptoms. A solvent treatment of oxalate-of-lime calculi in the body is admitted to be impossible; but the same method of treatment which tends to prevent the formation of uric-acid sediments will prevent the formation of oxalates, as they are both the result of the same conditions.

3. *Phosphatic sediments*.—These include the crystalline triple phosphate, phosphate of lime, and amorphous phosphates. They occur only in alkaline urine, and if present when the urine is passed or soon thereafter—when alone they are of any significance—they indicate that the urine is alkaline at such time. The result of a constant condition of this kind, which, it is important to remember, may occur from the excessive administration of alkaline remedies, may be phosphatic accretions in the urinary passages. These may occasion the same symptoms of irritation as those of uric acid and oxalates.

As to treatment, it is acknowledged to be impossible to produce by medication such a degree of acidity of the urine as will dissolve phosphatic accretions of any size; but here, again, the natural acid reaction of the urine may be restored and kept up

by the administration of benzoic acid, which is, in my experience, the only remedy to be relied upon for this purpose. Phosphatic sediments often accompany the pus and mucus which are the result of inflammation of the bladder, but it is questionable whether they as sediments add to the inconvenience of these affections. This is chiefly due to the viscid, glairy product of the action of alkalies on pus, which is the principal cause of the difficult and painful micturition which attends this condition.

Serious errors in practice are often made by the administration of alkaline mineral waters in these conditions of phosphatic sediments, these waters being indiscriminately resorted to in all bladder-affections, without regard to accurate diagnosis.

4. *Urate of ammonium* appears in the shape of yellow spheres in urine of alkaline reaction, under the same circumstances as those under which the phosphates are found.

TRANSLATIONS.

POISONING FROM IODOFORM DRESSINGS.

—In *La France Médicale*, Nos. 30 and 31, for 1882, is published a clinical lecture by M. Dentu upon the surgical use and dangers of iodoform, in which a *résumé* of several recent articles upon this topic is given. There are now upon record eleven cases of fatal result following the use of iodoform as a dressing, in which it is almost certain that death was due to the absorption of the drug. Many others have been reported where dangerous or disagreeable phenomena were observed. The symptoms of intoxication in some of the cases came on at once, and in others not for several days: in one case referred to in the lecture they did not appear until a week after the iodoform had been discontinued. The principal symptoms are general malaise and depression, faintness, headache, loss of appetite, and a persistent iodoform taste in the mouth. In some cases there is a slight temporary increase of temperature. Mental depression or excitement is especially noticed. Finally the pulse becomes accelerated, soft, and feeble; in some cases the pulse is very rapid,—150–180,—while the temperature remains normal, or only slightly elevated: the thermometer, therefore, does not give

any indication of the gravity of the poisoning. The cerebral phenomena are commonly those of delirium; but there have been observed, especially in children, symptoms resembling those of meningitis, such as coma, contracture, inequality of pupils, and rapid pulse, without marked elevation of temperature, a case of which (by Schede) is briefly referred to in the paper. In adults a suicidal tendency has been noticed. These accidents have occurred especially where the iodoform has been freely applied to recent wounds or large raw surfaces. [From the very free use at present of this agent, in the German hospitals especially, it is surprising that, comparatively speaking, so few bad results have been reported. Possibly idiosyncrasy may explain the extraordinary susceptibility of some, while others, under like circumstances, escape.—TRANS.]

THE INFLUENCE OF CERTAIN REMEDIES UPON THE MILK-SECRETION.—As the result of a clinical and experimental investigation, Dr. Max Stumpf, of Munich, gives the following as his observations of the effect of certain remedies upon the secretion of human milk:

a. Alterations in quantity of the milk.

1. Iodide of potassium brings about a considerable decrease in the total quantity of milk.

2. Alcohol, morphia, and lead do not alter the quantity secreted.

3. Salicylic acid appears to increase slightly the flow of milk.

4. Pilocarpin is not a remedy furthering the milk-secretion.

b. Alterations in the quality.

1. Potassium iodide disturbs the glandular functions so much as to lead to uncertainty as to its qualitative effects.

2. Alcohol and alcoholic drinks increase only the fatty constituents of the milk; as dietetic agents for the purpose of increasing the milk they are, therefore, to be discarded.

3. Lead, morphia, and pilocarpin scarcely, if at all, affect the quality of the milk.

4. Salicylic acid appears to increase the sugar.

c. Discharge of poisons in the milk.

1. Iodine appears quickly in the milk, and in man rapidly disappears after the discontinuance of its administration; but in the herbivora it is more persistent. As regards the proportion of the iodine discharged in this way, it bears no constant

relationship to the dose taken, and varies in different individuals. "The therapeutic application of iodized milk is therefore out of the question." The drug is discharged not in the form of alkaline salt, but in some combination with casein.

2. In the herbivora, alcohol does not pass over into the milk.

3. Lead appears only in traces, but remains for several days after the ingestion of the remedy has ceased.

4. Salicylic acid, when given in large doses, appears also in very slight quantity in the milk, in man rather more than in the lower animals.—*Deutsches Archiv für Klin. Med.*, January, 1882.

DOUBLE PLACENTA.—M. Tarnier reported to the Académie de Médecine the following curious case (*La Presse Médicale*, February, 1882). After a normal delivery the placenta appeared at the vulva, from which it was easily displaced by gentle traction; but it was found to have still some attachment within the vagina. Shortly afterwards an accessory placenta was extruded, weighing one hundred and forty grammes; it was united to the former by a membranous band. The diagnosis of double placenta rests upon the existence of vessels in this band; for when the difficult delivery is caused by abnormal adhesions or by clots entangled in the membranes, vascularity will be absent.

MASSAGE OF THE EYE FOR HYPOPYON.

—Dr. Just has reported rapid absorption of pus in several cases of hypopyon following light friction of the globe through the lower eyelid.—*Centralblatt für Prakt. Augenheilkunde*.

DEATHS FROM POISONED WOUNDS IN INDIA.

—During 1880 no fewer than 968 deaths were registered from snake-bite in the provinces of the Punjab, against 818 in 1879, and 752 in 1878. The deaths from hydrophobia show, unhappily, an enormous increase, the number of victims from this cause amounting to 107, against 69 in 1879; 286 deaths were caused by suicide, and 67 by wild beasts.—*British Medical Journal*, April 1, 1882.

AFRICAN SUBSTITUTE FOR TEA AND COFFEE.

—Schlagdenhaufen, of Nancy, has discovered in the seed of an African plant, known by the name of "la pola," both caffein and tannin. It is used by the Arabs to improve impure water. In a note read before the Académie des Sciences he states that he considers that "la pola" may rank in utility with tea and coffee.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MAY 20, 1882.

EDITORIAL.

OCCUPATION FOR THE INSANE.

WITHIN the memory of men still living, the treatment of the insane consisted principally in seclusion,—a method of management having for its object rather the protection of society than the restoration of the patient suffering with mental disorder. From the time when maniacs were chained to a post and publicly exhibited as objects of curiosity upon the payment of a small fee, to the present, when the disorder is regarded as physical and not psychological, requiring judicious and skilful treatment quite as much as any other form of bodily infirmity, constitutes a period of progress in therapeutics characterized by improvement more material and lasting than any which preceded it.

The need of providing mental occupation for certain forms of insanity may seem at first sight to be less imperative than is supposed by some who have had a large experience with this class of patients; but in many large institutions for the treatment of mental disorder it is found not only useful but conducive to the recovery of patients that work as well as recreation shall be provided. In the City Asylum for the Insane at Ward's Island, New York, out of more than a thousand inmates, about four hundred are available for work of various kinds, and are able to pursue some light employment for seven or eight hours a day. It might be expected that they would show unwillingness to labor; but this seems not the case: on the contrary, they often exhibit much enthusiasm for the work. Of course care and discretion are required in allowing the use of tools, and

the patients are searched each night to see that they have not secreted any. Should an access of insanity occur, so that they become sullen or flighty and refuse to work, they are allowed to remain idle until it passes off, when they are glad to begin again. Occasional interruptions for recreation and exercise in the open air are practised in order to overcome restlessness. In the mechanical departments a sane foreman is required to superintend their work. Dr. MacDonald, the superintendent, aims to give to each one the work he is accustomed to, or something related to it, and a few of the common trades are in constant operation. For instance, we learn from a *Tribune* reporter that all the carpenter-work, bricklaying, and general repairing are done by the patients; in the kitchen the only salaried officer is the cook, and the engine-room and boiler-room are attended to entirely by patients. In the summer a large number are engaged in farm-work. All the clothing in the institution is made by patients familiar with tailoring; others are employed in the shoe-shop, paint-shop, and tin-shop; and recently printing-presses have been put up, on which all the official matter of the department will be printed, and it is in contemplation, also, to do all the city printing here. It is likewise proposed to establish a weekly paper entirely composed, edited, and published by lunatics,—a novel idea, but perfectly feasible; and, in the words of the superintendent, "it won't be such a crazy paper either."

Dr. MacDonald finds that the great majority of patients are happier and more docile when employed, and he is satisfied that they are capable of doing many things which they have hitherto been supposed unfit for.

With the proviso that it shall be always as carefully conducted and as ably superintended as in the present instance, it is evident that the furnishing of congenial occupation is a valuable adjunct to the treatment of insanity; but the economy of

administration and profits upon the labor must always be kept subordinate to the main object,—the rational treatment of the insane with a view to their recovery. If abused, it might degenerate into an instrument of injustice and inhumanity to an unfortunate and helpless class of patients.

PROCEEDINGS OF SOCIETIES.

THE PENNSYLVANIA STATE MEDICAL SOCIETY.

THE Medical Society of the State of Pennsylvania held its Thirty-Third Annual Session at Titusville, Pennsylvania, on May 10, 11, and 12, 1882, in the large hall over the Battery Armory, with Dr. Jacob Zeigler, of Mount Joy, in the chair. The attendance of the delegates was unexpectedly large, numbering over one hundred and fifty. The programme, as arranged by the Committee of Arrangements, of which Dr. William Varian, of Titusville, was chairman, was strictly adhered to.

On Wednesday morning, May 10, at 10 A.M., Dr. Henry Parden, of Titusville, opened the meeting with prayer. After Dr. William B. Atkinson had called the roll of delegates, the address of welcome was given by Dr. G. O. Moody, of Titusville, in a speech short but eminently to the point.

The reports of delegates to other societies were handed to the Secretary.

Under the head of "New Business," Dr. Henry H. Smith submitted the following resolutions, which were seconded by Dr. John Atlee, of Lancaster, and were unanimously adopted:

"*Resolved*, That this Society reaffirms its adhesion to the Code of Ethics as adopted by the American Medical Association.

"*Resolved*, That the delegates of this Society to the meeting of the Association in 1882 be instructed to enter an early protest against the admission to the Association of delegates that object to and do not observe said Code of Ethics in all its recommendations."

A communication was also presented from the Philadelphia Medical Society endorsing the sentiments of the resolution.

During the discussion there was a unanimous expression of opinion against the recent hasty action of the Medical Association of the State of New York.

The Secretary was directed to forward a copy of the minutes of the proceedings to other societies. It was proposed that the Convention meet in Warren on Friday, instead of in Titusville. This motion was lost in consequence of there being one dissenting voice, which, by the laws of the Society, precludes

any alteration in the programme. It was ultimately arranged that the Convention should visit Warren on Saturday, accommodations being provided for all who signified to the Secretary their intention of going.

The Committee on State Board of Health reported the failure of the passage of a law, at the last meeting of the Legislature, creating a State Board of Health, and recommended that this important measure should be urged upon the Legislature.

There being no further business, the Society adjourned until two o'clock in the afternoon.

On reassembling, the following amendment to the constitution was considered and voted down: "Every member of a county medical society in Pennsylvania shall, so long as he is in good standing, be a member of the State Society and a delegate to its annual session."

Dr. H. L. Orth, of Harrisburg, being absent, the address in Surgery was omitted, and the afternoon was devoted to the reading of volunteer papers. Dr. S. S. Schultz, of Danville, Pennsylvania, read an interesting paper entitled "Gheel." He described at length the town and its surroundings, and the habits of those who from generation to generation billet and care for the insane; but the lecturer did not seem to be in favor of the method, and considered it open to criticism, especially concerning what is known of the plan of treating violent and troublesome cases in cottages.

Dr. John V. Shoemaker, of Philadelphia, read a paper upon the "Oleates and Oleopalmitates in Skin Diseases," at the same time exhibiting a number of new preparations, such as the oleates of zinc, copper, aluminium, iron, arsenic, and silver, describing their method of preparation, and setting forth their respective therapeutic values.

OLEATES AND OLEO-PALMITATES IN SKIN DISEASES.

The advantages which they possess over ordinary ointments he considered to be: First, their deep penetration. The oleic acid in the combination gives them active solvent powers and facility and ability to penetrate rapidly into the animal tissue, rendering any chemical ingredient with which it is combined more active and effective in dermic medication. Secondly, freedom from rancidity. The same acid held in the combination will always keep the fat with which the oleate is mixed pure, sweet, and free from rancidity. Thirdly, cleanliness of application. The rapid absorption of the oleate into the tissue will prevent any unpleasant disfigurement of the parts, will not stain the linen, and will give comfort and ease in their application. Fourthly, economy. The oleate should not be rubbed in vigorously, like the ordinary mechanical ointments, which require considerable friction: they only require to be lightly smeared or applied over the surface in very small quantities. Fifthly, antiseptic action.

The oleic acid in combination has also a most happy and effective action in rendering the oleates antiseptic or deodorant upon all discharges and suppurating surfaces.

Dr. Traill Green, of Easton, read a paper on "Medicine and Something More." It was full of humor and of good advice to young and especially indiscreet practitioners,—how they could educate themselves and should train their patients; how to save their reputations and their patients' feelings.

In referring to different contagious diseases, he said that in a practice of fifty years he had never known any one to have the smallpox after being successfully vaccinated by himself.

Dr. E. E. Montgomery, of Philadelphia, followed with a paper on

PROCIDENTIA AND ITS RELIEF.

After reviewing the opinion of authorities upon the true uterine support, the lecturer assumed that the vagina was the support in the normal condition, and the ligaments nature's reserve forces.

Prolapse occurs as a result of three conditions: 1st, pressure from above; 2d, increased weight of uterus; and, 3d, want of support below. The most potent agents in its production are engorgement of the uterus, frequent child-birth, laborious exercise, early resumption of domestic duties, neglect of laceration of the perineum, and the frequent use of a widely expanding bivalve speculum.

There are three stages: 1st, simple descent; 2d, incomplete prolapse; and, 3d, complete prolapse or procidentia.

The earlier symptoms are pain in back and limbs; bearing-down, burning pain in pelvis and groins, and sensation of pressure upon fundament, followed later by vesical and rectal distress and tumor at the vulva.

Procidentia is distressing, from friction against clothing and limbs, and from being bathed with urine, often producing ulceration. The indications for treatment are, first, to replace the uterus, and second, to prevent the recurrence of the disorder. The latter comprises mechanical and surgical measures. The mechanical support is by means of pessaries, which are unpleasant, ineffective, and not without danger. In reviewing the various surgical measures proposed, he claims that they all, with the exception of Le Fort's, fail to give permanent relief, for two reasons: 1st, they do not elevate the uterus to its normal position, and thus facilitate the absorption of hypertrophy and the atrophy which should occur with age; 2d, they do not afford sufficient support in the upper third of the vagina, allow the enlarged organ to sink like a wedge into the narrow canal, and by pressure cause the absorption of the tissue below, until it is again outside. These causes of failure are obviated by Le Fort's operation, which, by constructing a bridge of tissue in the centre

of the vagina, supports the uterus. It forms a double vagina. Tracey greatly improved the operation by restoring the perineum at the same time. The only drawback to its invariable performance is that the adhesion of the vaginal walls would greatly complicate delivery.

A case was given in which the operation was successfully performed.

Dr. John G. Lee, of Philadelphia, submitted a paper on the subject of "Homicides in the City and County of Philadelphia." After referring to the recent great advances in the science of medicine, he said that "from December 31, 1871, until January 1, 1882, out of a total number of 12,936 cases of death investigated by the coroner of Philadelphia, 323 cases were deaths from homicidal violence. As the population of a city increases, so naturally the number of homicides might be expected to augment in a similar ratio; but in no case does the ratio appear to bear any relation to the population. In 1873, when the lowest number of homicides was committed, the ratio was 30 to 10,000 souls, while in 1875 and 1876, when the greatest number occurred, the ratio was 55 to 10,000. Of the 323 cases, 26 were colored people, and 297 whites. As might be expected, we find deaths from violence occurring more frequently at the period of life when, the bodies and intellects of the human species being fully matured, their passions are most difficult to control, the highest number being reached between the ages of 20 to 30 years, the next highest between 30 to 40 years, the lowest occurring between 80 to 90 and from 5 to 15 years: 262 of the slain were adults, and 61 were minors; 174 of the 323 were married. The greatest number of homicides occurred during the month of July, and the fewest in the month of March. Making the months in groups for the past ten years, we cannot, therefore, do else than admit that the impulsive actions excited by human passions, though not subject to special rules and laws, must be the physiological manifestations of physical phenomena exerting a disturbing influence over cerebral action."

REMARKS ON INTRA-NASAL SURGERY.

Dr. Carl Seiler, of Philadelphia, read a paper on intra-nasal surgery. In it he recounted some of the surgical operations lately introduced for the relief of nasal stenosis, which he considers the prime cause of the symptoms of nasal catarrh. The obstructions to breathing through the nose, which could be removed by surgical means, were divided into two classes,—viz., (1) those produced by swelling of the mucous membrane, or hypertrophic enlargement, forming soft tumors growing from the mucous membrane; and (2) by hard, bony, or cartilaginous projections into the nasal cavities. The former class was again divided into permanent and temporary. The doctor then went on to describe the opera-

tions, advisable for the removal of these obstructions, and said that he had found that the most satisfactory and at the same time least painful method of removing those swellings which are situated at the anterior portion of the turbinated bones, and which are called anterior hypertrophies, was by means of the galvano-cautery knife, describing the different steps of the operation. He said that it is of great importance in this operation to have the platinum loop at the proper temperature; for if it is too hot considerable bleeding will follow the incision, and if not hot enough the application is very painful. With the galvano-cautery batteries in the market it is impossible to graduate accurately the temperature of the knife, and he showed a battery devised by himself for the purpose, which is so arranged that the zinc plates are suspended above the cups containing the carbons and fluid, and may be immersed to any extent by depressing with the foot a treadle on the outside of the box containing the battery. The amount of surface of the zinc plates exposed to the action of the acid determines the amount of electrical current, and consequently the amount of heat in the loop of the knife.

The immediate result of the burn is the formation of an eschar and of a certain amount of acute inflammation, which stands in a direct ratio to the extent of the burn, and therefore not too large an incision should be made at any one sitting. The ultimate result of the operation is the formation of bands of cicatricial tissue, which by its contraction as it becomes firm binds down the swellings and thus removes the stenosis. In the same manner a curved galvano-cautery knife is used to cauterize the hypertrophied adenoid tissue in the vault of the pharynx above the soft palate. These operations, if proper care be exercised, are not at all dangerous or painful, and on that account are preferable to the application of chemical caustics, which, as a rule, give great pain to the patient and are in the end not as effective as the galvano-cautery. The author then went on to describe the method employed by him for the removal of hypertrophies situated far back in the nasal cavity and of nasal polypi. For these operations he employs a wire snare invented by Dr. Jarvis, of New York, the steel-wire loop of which is thrown around the hypertrophy or polypus, and by gradually reducing the size of the loop the tissue engaged by it is snared off. To prevent a return of polypi he advises the cauterization of the stumps with the galvano-cautery knife. This method of operating he had found to be attended with very little, if any, pain and hemorrhage. Localized thickenings, which are not infrequently found on the cartilaginous septum in old cases of nasal catarrh, and which produce partial nasal stenosis, may also be removed with the wire snare; but when these localized

thickenings have become ossified, or when the obstruction in the nose is due to an exostosis of the bony septum, or to an enlargement of the turbinated bones, or finally to a bony spur from the palatine process, neither the galvano-cautery nor the wire snare is of any avail, and the obstructions must be removed by drilling them away. For these operations dental engines have heretofore been used to hold and rapidly revolve the drills and burrs, just as the dentists use them for excavating decayed teeth. Within a short time, however, the author stated that he had substituted for the dental engine a small electric motor, invented by Mr. Griscom, and manufactured by the Electro-Dynamic Company, of Philadelphia, to which the hand-piece carrying the drills and burrs is attached either directly to the spindle of the motor, or by means of a short flexible shaft. The speed of the drill can be regulated to a nicety by means of the automatic adjustable battery which belongs to the motor, from a few hundred to ten thousand revolutions per minute, and its power is at least equal to that of the dental engine. When used for operation, the apparatus is suspended from the ceiling by cords, which run over pulleys and carry counter-weight so as to balance the motor in any position in mid-air and in front of the patient, and to keep it in any position it may be placed in. This arrangement relieves the hand of all weight, and thus a much more delicate manipulation of the tool is possible than can be obtained with the dental engine, for in the latter instrument the hand has to support the weight of the hand-piece and flexible shaft or arm, and, besides, a good deal of the motion of the foot working the treadle of the fly-wheel is communicated to the hand, making it unsteady. The tools used are much the same as those employed by the dentist, except that when the bony obstructions are far back in the nasal cavity they should be longer in the shaft.

The operation is performed by riddling the bony obstructions with holes made with a cutting drill, and the substance between the holes is then broken down with a coarse burr, and finally any shreds of mucous membrane and spicules of bone are trimmed off with a pair of scissors. Usually but very moderate amount of inflammation of the mucous membrane in the nose follows the operation, and the wound heals readily in a few days.

As a rule, it is found more convenient for the operator to place the patient under the influence of ether, so that the involuntary struggles of the patient do not interfere with the operation: this is, however, not absolutely necessary, as the pain is not nearly so great as might be expected.

For the relief of the obstruction caused by deviation of the septum, a variety of operations have been recommended, but the doctor stated it as his opinion that the simplest opera-

tion, the easiest to perform, and at the same time the most satisfactory, is the following. With a strong pair of forceps, which has inserted into one of its blades a number of knife-blades at right angles to the surface and arranged in the shape of a star, the septum is punched at its greatest curvature, by introducing the blade carrying the knives into the open nostril and the unarmed blade into the closed one, and then compressing the handles. The punch is then removed, and with a pair of forceps having flat blades the septum is forcibly straightened, which becomes possible since the triangular pieces produced by the cut made with the punch lap over, and thus the distance from the base to the top of the septum becomes diminished. A wooden or ivory plug is then introduced in the formerly-closed nostril, with a view to keep the septum in its new position, and is left there until the parts have sufficiently healed to remain straight without that support. This operation is also not very painful, and can readily be performed without ether.

For the removal of necrosed bone and for treating caries of bone in the nasal cavity the lecturer said that he knew of no better means than the dental drill and burr attached to the electric motor, for the delicacy of movement of the instrument allows the hand at once to detect when the tool has penetrated the diseased structure and sound bone is reached.

Deep ulcerations of the mucous membrane in the nasal cavity he finds do not readily yield to the usual applications of chemical caustics, and therefore he treats them either with the galvano-cautery knife or the corundum cone mounted on a long shaft and revolving rapidly in the electric engine. When the ulcers are small, the charring of the surface with the glowing platinum loop answers every purpose, and is not nearly so painful as the application of solid nitrate of silver. If they are large, however, it seems best to freshen up the surface with the corundum cone, which when rapidly revolving enables the operator to remove all diseased tissue without injuring the healthy.

The paper closed with a few remarks on the medicinal after-treatment of nasal catarrh, and was illustrated by the exhibition of the various instruments described.

In the evening the President, Jacob L. Zeigler, of Mount Joy, delivered, in the Academy of Music, the annual address. Afterwards receptions were tendered the visitors at the residences of Mayor Caldwell, Dr. Varian, and Dr. Moody, all of which were largely attended and proved most happy events.

Thursday morning, May 11, at 9 A.M., the Rev. J. A. Maxwell opened the proceedings with prayer.

After reports from county societies and that of the Treasurer, Dr. B. Lee, of Philadelphia, Dr. C. S. Turnbull read a paper upon "Defective Hearing of Locomotive Engineers," by Dr.

L. Turnbull, of Philadelphia. The report concluded by recommending that examinations of engineers be made every two years, and that certificates be withheld until after examination, and that when firemen present themselves for promotion, special precaution be taken and instruction given that ear-troubles are likely to be induced by their occupation, and that they should report them at once and be treated.

The committee in its report stated that the Pennsylvania Railroad Company has adopted regulations for the examination of the hearing of all those in its employ, and no doubt other railroads will follow the example, the subject being of interest and importance to them as well as to the travelling public. The report also contains a comparison of the results of the examination of railroad employes and the military service, showing its importance both to the army and the navy of the United States. The reports of the health bureaus of the Prussian and Würtemberg armies were given for 1874-78, showing that during those four years there were removed from disability on account of ear diseases 1883 men. Dr. Turnbull added to the report an appendix containing new facts and observations from patients, with the opinion of engineers regarding the great utility of these examinations and the proper treatment of such defective individuals.

The address on Mental Disorders was delivered by Dr. Charles K. Mills, of Philadelphia, on "Criminal Lunacy." The psychology of vice and crime, the relations of crime to insanity, criminal responsibility and the best methods of determining it, and the proper disposal of the criminal insane, were among the topics briefly discussed. The case of Guiteau received some attention, the doctor holding that his insanity was probable, but that he should not therefore escape punishment. The necessity of modifying existing laws relating to the insane, and the importance of establishing in Pennsylvania and elsewhere special criminal lunatic asylums, were among the subjects discussed and advocated.

Dr. W. H. Daly, of Pittsburg, read a paper on "Some Questions relating to Tonsillotomy," and Dr. J. A. Lippincott, of the same city, followed with an interesting paper on "Abscess of the Orbit," both of which were duly referred.

BORACIC ACID IN EAR-DISEASE.

Dr. Charles S. Turnbull, of Philadelphia, read a paper entitled "Powdered Boracic Acid in the Treatment of Chronic Purulent Inflammation of the Middle Ear (Otorrhœa)," in which he strongly recommended the use of powdered boracic acid in the treatment of chronic purulent inflammation of the tympanic mucous membrane in the antiseptic, or what might be more accurately termed the dry, method of treatment. The syringe

he regarded as a thing of the past, except for the removal of impacted cerumen, foreign bodies, etc. The marked success which has attended the dry, antiseptic treatment of these cases has led him to advocate its use in this most common form (in this country) of aural disease. Up to about two years ago he examined and treated cases of chronic purulent middle-ear inflammation with inward misgivings, because he was a non-believer in all the methods in vogue, and had learned by experience to have no faith in the prescribed forms of cleansing, medicating, and managing the ears of such of his patients as suffered from chronic otorrhœa.

Inflammation of the drum-cavity (tympanum) is so frequent in this country that its characteristic symptom, otorrhœa, is often regarded as synonymous with the proper and self-defining name, "chronic purulent (or suppurative) inflammation of the middle ear."

Whatever causes tend to provoke an inflammation of the mucous membrane lining the middle ear or its appendages may lead to a perforation of the membrana tympani and discharge from the ear.

He mentioned that it oftenest occurs in infancy from dentition, or as a sequence of the exanthemata, inherited taints (tubercle and syphilis); by inflammatory extension from the gastro-pulmonary mucous membrane, nasal, post-nasal, supra-post-nasal, and tubal spaces, and the much-vaunted irrigating treatments for the same; last, but not least, from exposure, carelessness in cleansing the meatus, too forcible blowing of the nose, bathing, the use of aqueous solutions of Castile soap, instillations of olive oil, glycerin, etc. The invariable tendency of most forms of acute purulent inflammation of the middle ear is to get well of themselves, if it were not that the peculiar conditions of the parts provoked the fermentation of stagnant secretions, the formation of pus "from the immigration of bacteria" (Loewenberg), and the meddlesome interference of those who never pause to consider the conditions present, but pursue time-dishonored plans of guess treatment, which are, as a rule, dependent upon the fragile experience of empiricism. The curing—*i.e.*, the stopping—of a purulent discharge from the ear is the only desideratum, it would seem, to many sufferers and their medical attendants. He said that, as a rule, it is not the discharge in itself which does harm; it is a too heroic treatment and the subsequent process of cicatrization, which to a greater or less extent damages the hearing-power. It calls for intelligent management as well as treatment, so that the functions of the acoustic apparatus (the tympanum and its appendages) may not only be preserved intact but kept in motion.

He has been met with the objection that "if these discharges from the ear can be stopped, the disease will go to the brain." This idea had its origin in the fact that, hereto-

fore, such heroic measures were used to check the discharge, and caustic solutions were poured into the ears, because no intelligent treatment was employed, and, as in the majority of cases no careful ocular inspection of the parts was made, extension of disease to the inner ear, or even to the brain, resulted.

Concerning the "insufflation" of powder into the external auditory meatus, he has never been satisfied with the procedure, and says he was always forcibly reminded, on attempting such "insufflation," of the familiar trick of trying to blow a light paper ball into a bottle which lies on its side. The harder one blows, the more certain is the ball to fly out, rather than into the empty bottle. Precisely the same thing occurs when the attempt is made to insufflate powders into the auditory meatus; because the return current carries it all out again, leaving little or none in the meatus. The operator generally gets the most in his face. This point will be appreciated by those who have attempted to employ powdered iodoform in this way. Better drop one-fourth of the quantity proposed to be insufflated through a clean speculum. The ear is not to be syringed; it should be cleansed with absorbent cotton. A meatus as tender and swollen and excoriated as it usually is in otorrhœa can be cleansed with cotton on a probe. It cannot be done by guess-work, or in the dark. Unless the meatus be thoroughly illuminated, every pledget will, in the majority of cases, except in experienced and careful hands, impinge against one or the other side of the wall of the meatus, and cause pain, exudation, etc.

With the forehead mirror adjusted so as to illuminate the parts, the (outer) cartilaginous portion of the meatus can be thoroughly cleansed. Having gone so far, a speculum is carefully introduced, *illuminating as he proceeds*, and through this (unless the meatus be unusually large, when the speculum can be dispensed with) the inner (osseous) portion can be cleansed down to the membrana tympani, or even farther. So much for the meatus. Now the tympanum must be cleansed. He never attempts to wipe through or into a perforation, but while the patient, by Valsalva's method, blows out any intra-tympanic secretion, wipes it up; or, in case of Valsalva's method being impossible or impracticable, he forcibly inflates with Politzer's air-douche, and so frees the tympanum by blowing any collection into the external meatus.

As a rule, the application of any powder becomes painful when it enters the tympanic cavity, and more especially so if it dissolves and runs down into the Eustachian tube, through which experience has taught him he dare not allow even pure water to pass, if in any way consulting the comfort of the patient. Solutions of borax, or, better, boracic acid water and glycerin, may be used if the sensitiveness of the parts or the character of the

secretions collected therein does not allow the use of the cottoned probe. Experience in the procedure of cleansing is absolutely necessary to success, and the operator must make up his mind conscientiously to wipe out the meatus patiently and carefully under a good illumination.

Having cleansed the meatus, the speculum is to be removed and thoroughly dried, inside as well as outside, and with it *in situ* the powder is to be poured into the speculum *ad libitum*. As the powder is filled into the meatus, through the speculum, it is packed, layer upon layer, not tightly, but firmly, meanwhile gradually withdrawing the speculum until it reaches the mouth of the meatus.

He has adopted the dry antiseptic method and the exclusive use of *powdered boracic acid*, which, in all chronic cases, he packs and re-packs into the meatus until there is a cessation of all discharge.

He claimed for his father the credit of having first introduced "Bezold's antiseptic treatment" and perseveringly employed and taught the use of boracic acid powder for the treatment of "otorrhœa." The great mistake was in the fact of many experimenters not having observed Bezold's instructions,—viz., *that the boracic acid must be finely powdered*. Oftentimes one packing is enough. In other cases the packed powder was washed out in a few days, but he persevered, and has always been rewarded for any trouble in filling and repacking. If the discharge ceases, and leaves a hardened mass of discharge and powder, etc., filling the meatus, it must be removed,—not by force, nor by syringing. It must be softened by the instillation of warm *fluid cosmoline* (petroleum), which has the charming recommendation of not becoming rancid by heat. As the mass softens, it may be delicately picked loose and blown out of the meatus by the rubber bag of a Politzer's air-douche.

By this method perforations are healed, tympanal mucous membrane becomes almost normal in appearance, purulent secretion and all odor are removed, and "running ears" are absolutely cured.

Solutions of boracic acid powder, in equal parts of glycerin (which will partly dissolve it) and water, forty grains to the ounce, are to be recommended in acute purulent inflammations of the middle ear, or even in chronic purulent inflammations, especially those occurring in small or unruly children. Such a solution should be warmed, well shaken, and dropped into the ear twice or thrice daily. Where perforations do not heal, on account of their great size, or sclerosis of tympanal mucous membrane, etc., he recommended most highly *powdered boracic acid*, suspended in fluid cosmoline, in varying proportions, warmed, *shaken*, and dropped into such ears once or twice weekly.

Instruments used in aural surgery should

be kept in or dusted with powdered boracic acid. He had seen some forms of parasitic otorrhœas transferred from patient to patient, and even with the most careful surgeons a case of *aspergillus* is often followed by one or more fresh ones occurring in those of his patients who have been treated about the same time.

In this connection he stated that after careful microscopic investigations, and the study of clinical facts pertaining thereto, all the so-called varieties of *aspergillus* which are usually divided, according to their apparent color, into different species, are but one and the same fungus, as it undergoes the successive changes from white, yellow, red, or purple, to black, each representing successive stages of development of the same fruit, which, when fully matured, is *black* (nigricans).

Purulent tuberculous inflammation of the middle ear cannot be cured.

Borated cotton is of no use whatever in aural surgery, the ordinary absolutely clean absorbent cotton being preferable, and especially so when dusted with the dry powdered boracic acid. It is by no means an easy undertaking to pulverize the scaly crystals of boracic acid, and once in the mortar they must be bruised and pounded instead of rubbed. Careful pharmacists use a bolting-cloth to make the powder impalpable.

ACTION OF MYDRIATICS.

Dr. E. J. Jackson, of West Chester, read a paper on the "Comparative Action of Certain Mydriatic Alkaloids," in which he discussed the physiological and therapeutic properties of daturia, duboisia, and hyoscyamia.

In experiments on himself, two-thirds of a milligramme of each alkaloid hypodermically produced a temporary fall, followed by an increase, of the pulse-rate, giddiness, dryness of the throat, affection of the eyes, increase of urine, and headache. The subjective symptoms seemed most severe with hyoscyamia and least so with daturia; the pulse-rate was equally affected in all cases.

It was also sought to determine their local action on the pupils and accommodation. With the amount of the drug employed, dilatation began for daturia and duboisia at twenty-two minutes, and for hyoscyamia at twenty-one minutes, pupils dilating to the maximum. The accommodation fell from 9.75 dioptries to 4.8 D. for daturia, 3.2 D. for duboisia, 2.3 D. for hyoscyamia. Recovery of pupil and accommodation occurred simultaneously, for daturia at six days, for duboisia at six and one-third days, and for hyoscyamia at six and two-third days. The above results were the means of three trials with each drug in the same person. The writer thought that the results of this study seemed to favor the idea that the three drugs in question are physiologically identical.

RODENT ULCER.

Dr. Joseph Hearn, of Philadelphia, read a paper calling the attention of the general practitioner to the early recognition and proper treatment of rodent ulcers, which he stated were a form of skin cancer and could be distinguished from the harmless ulcer by hardened margins. The treatment, he said, consists in complete removal, either by the knife or by caustic, especial care being taken to include the edges.

A communication was received from Dr. A. L. Kennedy, of Philadelphia, calling the attention of the Society to the fact that cinchona can be acclimated and successfully grown within the limits of the United States, and that the newly-appointed Commissioner is not indisposed to enlarge the work of his department, and it would be well for the State Society to encourage him.

The committee appointed to prepare a schedule of subjects and requirements of the Medical Society of the State of Pennsylvania, designed as a guide to medical examiners in ascertaining the fitness of candidates for the study of medicine, made a report, recommending a more general education of candidates. A minority report was submitted, when Dr. John Atlee, of Lancaster, moved that the report be recommitted for further consideration, and, speaking of the necessity of elevating the standard of education for those seeking admission into the medical profession, said that physicians a hundred years ago were more generally prepared in the way of a thorough education than at present. The motion to refer was agreed to.

REGISTRATION OF PHYSICIANS.

Dr. Sibbet, of Carlisle, chairman of the Committee on Medical Legislation, submitted a report in reference to the act of the Legislature providing for the registration of all practitioners of medicine and surgery. The committee say that under this act they addressed letters to all the county medical societies and the prothonotaries in counties in which there were no societies, and received responses from forty-six out of sixty-seven counties in the State. From these it appears that 674 graduated from the University of Pennsylvania and 1020 from the Jefferson Medical College. The whole number of practitioners in the counties reporting is 2200, and of this number 619 are not graduates from any college. The report from Philadelphia shows 1554 registrations, of which 220 are homœopathic and 210 from other institutions outside of the University of Pennsylvania and Jefferson Medical College in this city. There are 48 registered who are stated to be without any regular medical education. The committee say that the enforcement of the Registration Act is the first duty of the profession, and a committee should be appointed in each county medical society to supervise the work.

Dr. John T. Carpenter presented a preamble and resolutions adopted by the Judicial Council of the Society, providing that the Medical Society of the State of Pennsylvania request the different faculties that may have applications made to them under the provision of Section 4 of the Medical Regulation Act of Pennsylvania, to give each and every applicant a fair, full, and thorough examination in all branches taught in their own school and required of their own students, before endorsing their diplomas, and to refuse to endorse any diploma unless the holder is well qualified to practise his profession.

After a long discussion, the committee withdrew the paper.

The afternoon session opened with the report of the nominating committee, of which Dr. John Atlee was chairman. The following officers were selected for the ensuing year:

President.—Dr. Wm. Varian.

First Vice-President.—Dr. A. Hewson.

Second Vice-President.—Dr. E. P. Allen.

Third Vice-President.—Dr. A. Thayer.

Fourth Vice-President.—Dr. A. M. Miller.

Permanent Secretary.—Dr. W. B. Atkinson.

Recording Secretary.—Dr. Edw'd Jackson.

Corresponding Secretary.—Dr. John G. Lee.

Treasurer.—Dr. Benj. Lee.

Committee on Publication.—Drs. Wm. B. Atkinson, Benj. Lee, Albert Frické, Chas. S. Turnbull, Edw'd Jackson, J. V. Shoemaker, and J. G. Lee.

Norristown was selected for the next place of meeting.

The address in Hygiene was delivered by Dr. W. F. Muhlenberg, of Reading. It was a most interesting paper, which cannot be abstracted to do it justice. It considered fermentation and decomposition of all animal fluids and the several varieties of micrococci found therein.

The paper of Dr. William S. Little, of Philadelphia, upon "Subjective Traumatism of the Eye," was also well received. He discussed a condition of the eye resulting from the strain occasioned by optical defects, which induced impairment of vision and various inflammatory and diseased conditions.

Dr. Leftmann, of Philadelphia, read a paper on the medical relations of the prevailing food-adulterations, in which it was stated "that the general character of adulterations was not of a nature calculated to actively spread disease."

Dr. B. E. Mossman, of Greenville, read an interesting paper on "Puerperal Malarial Fever," in which he considered the diagnostic symptoms between true puerperal and puerperal malarial fever, and, as he lives in an especially malarial district, he could point with more than usual accuracy to the characteristic accompaniments of malarial poison in the puerperal state. The recurrence of rigors at stated times, and the free-

dom of the patients from high temperature, etc., serve, with an array of carefully reported cases, to illustrate the phases of this disease, which yields to quinine, is apt to recur, and almost always does so with each successive confinement.

In the evening a reception was given by the citizens of Titusville at the Oil Exchange. The building is a handsome one, and the auditorium one of the finest of its kind. The promenade concert commenced at 9 P.M. The banquet was at 11 P.M., and was followed by dancing, which was kept up long past the "wee sma' hours."

On Friday, May 12, the session convened at 9 A.M., and was opened by prayer by the Rev. F. S. Rowley.

Dr. Daly, of Pittsburg, in the absence of Dr. R. S. Sutton, of that city, read the address in Obstetrics.

Dr. Sutton's paper gave a *résumé* of his experience in the study of abdominal surgery and gynecology in Europe. He mentioned in detail the operations of Billroth, Meyer, of Berlin, Langenbeck, Nussbaum, and others, and described the several modifications of various European operators for ovariectomy, laparotomy, etc.

Dr. Griswold, of Sharon, read a paper on "Herniotomy," and Dr. John B. Roberts, of Philadelphia, communicated a paper on "Excision of Cartilage in Nasal Occlusion due to Deviated Septum," which was read by Dr. Leffmann. A punch used to excise pieces of the septum was exhibited.

Dr. William Varian reported a case of ovarian polycyst in a woman of 39 years, which at its incipency, and for several years, had presented the appearance of a fibroid. Ovariectomy was performed, but the patient died on the twenty-first day. In commenting upon the case, Dr. Varian suggests that ovarian fibroids are more common than is generally supposed, the reason that they are not frequently encountered being that they do not usually attain so large a size as to demand operation; he believed that polycystic tumors may be a frequent termination of fibroids, due to a peculiar form of degeneration. In conclusion, he inquired if colloid polycysts are benign in their character, or do they possess the elements of malignancy? The inference from his remarks was that the fibroid was a benign form, but the colloid and cystic degeneration was in the direction of malignancy.

A paper on "The Use of Atropia," by Dr. E. Dyer, of Pittsburg, was read by title.

At the afternoon session, Dr. Shoemaker, of Philadelphia, submitted resolutions, which were adopted, thanking the physicians and citizens of Titusville for many courtesies extended, as well as for their universal display of cordial hospitality.

Papers were then read by title in the following order:

"Management of the Perineum during Labor," by Dr. Frances N. Baker, of Media.

"A Rare Case of Nervous Disease," by Dr. J. L. Stewart, of Erie.

"Hæmaturia," by Dr. William S. Roland, of York.

"Surgical Expedients in Emergencies," by Dr. R. J. Levis, of Philadelphia.

After the transaction of some unimportant business, the Society adjourned.

Thus closed one of the most satisfactory of the State Medical Society's meetings; and, although the sun did not shine once during the week, the delegates were warmed by a most cordial expression of hospitality on the part of the citizens of Titusville, who, undaunted by the recent loss by fire of three of their largest hotels, arose *en masse*, and, opening wide their doors, vied with one another in making their guests comfortable, and in welcoming us to their homes. C. S. T.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CLINICAL conversational meeting of the Society was held at the hall of the College of Physicians, Philadelphia, January 31, 1882, Dr. H. Y. Evans, President of the Society, in the chair.

Dr. Blackwood exhibited a patient with large double scrotal hernia, and made a few remarks on the case (see page 554).

Dr. Garretson called attention to the configuration of the head of the patient and to his physical strength, and Dr. Blackwood said that the mental ability was decidedly above the average.

Dr. Heyl exhibited the specimen and read a paper on a case of malignant orbital growth (see page 554).

Dr. Seiler said he had detailed some time ago, before the Pathological Society, for Dr. P. D. Keyser, a case of tumor, a round-celled sarcoma of tear-gland, involving the gland itself, and about the size of a bean. The eye was not removed; the tumor was taken out, but returned again, and was again removed. It still retained its character as a round-celled sarcoma; a third return is probable, but the eye is not involved. Dr. Seiler did not think that a tumor could begin outside the eye and then pass into it; he had never seen such a case, but had seen the cornea pushed out three-quarters of an inch by a melanotic spindle-celled sarcoma, making the eye look like a horn.

Dr. C. S. Turnbull thought that the tumor, if it were a glio-sarcoma, extended into the orbit through the optic nerve or its sheath. He thought that the tumor referred to by Dr. Seiler had originated in the choroid, ciliary body, or iris, and not in the retina or substance of the optic nerve.

Dr. Heyl said that when he saw the case

the cornea had sloughed away, and the interior of the eyeball could not be examined. He considered it possible for a tumor to work through the sclerotic, leaving the cornea for the time being intact, and referred to illustrations in Stellwag's work* on the eye in confirmation of this opinion.

Dr. Richardson urged the importance of examining for parasites during post-mortems, as suggested by Dr. Henry. He had advised the students at the University of Pennsylvania to make such examinations in the dissecting-room, and since that time trichinæ had been found in several instances. In one of these, two post-mortem examinations were reported to have been made before the body was dissected, one by the physicians at the Philadelphia Hospital, another by order of the coroner, and yet neither autopsy was thorough enough to detect the parasites.

Dr. Tyson said that Dr. Leidy had pointed out that the common form of tænia, at least in the United States, was *T. medio-canellata*, and not *T. solium* as is commonly supposed.

Dr. C. S. Turnbull said that the anatomical differences between the two parasites accounted for the fact of the head of *T. solium* being so rarely found with the ejected worm. The unarmored variety was not able to hold on so well. In his experience, santonin was more successful when combined with sodium bicarbonate. According to Cobbold, *T. echinococcus* is not so common as formerly, because the excrements of dogs and wolves, in which the eggs occur, are not so much used as quack medicines as they were. Cobbold recommends male fern in doses of one fluidrachm as a remedy for *T. medio-canellata*.

Dr. Dunmire said he had successfully removed, about six years ago, by means of male fern, a tape-worm of variety unknown to him, but probably due to pork.

Dr. J. M. Barton referred to some cases of trichinosis which he had reported in the *College and Clinical Record*. The pork had been bought wholesale, and the family had lived almost exclusively upon it for a few days. From the date of the trichinæ being first introduced, undiluted glycerin, with abstinence from fluids both before and after the dose, had been freely used, and with decided benefit.

Dr. Tyson called attention to the different modes of origin of casts. The simplest and most natural idea is that they are fibrin: hence the process which produced them was promptly styled by the German pathologists a croupous inflammation. In acute Bright's disease the hyaline casts are probably true fibrin. In cases where no active inflammation exists, as in contracted kidney, hyaline casts are also present, but can hardly be considered true fibrin, and it is not impossible they may be coagulated albumen. In other

cases the dark granular and some waxy casts may result from a fusion of renal epithelial cells. One of the best-determined points with regard to casts is that the waxy cast occurs only in chronic renal disease.

He agreed with Dr. Richardson that casts are often overlooked in examinations, but was confident also that they might, at times, be absent in albuminous urine from Bright's disease, while, on the other hand, they are sometimes present in urine free from albumen. He referred to the case of a young girl who had died in uræmic convulsions from chronic parenchymatous nephritis whose urine was highly albuminous but contained very few casts, inasmuch that several physicians had examined the urine without finding them. At the autopsy a typical large white kidney was found whose tubules were completely occluded with hyaline and waxy casts. He believed such occlusion might be an important factor in causing retention and hastening a fatal termination.

In illustration of the opposite condition, in which casts may be present in non-albuminous urine, he referred to a typical case of scarlet fever, with intense rash, in which he had at the acme of the latter examined the urine, and found it free from albumen, but containing numerous hyaline and granular casts. As the symptoms subsided the casts disappeared, but no albumen was ever present. The kidney was doubtless congested, but short of a degree sufficient to produce albuminuria. He advised examinations of urine to be made in scarlet-fever cases at the acme of the rash, as a knowledge of the condition of the kidney thus obtained would lead to the use of measures which might avert a greater degree of renal involvement. In this instance he immediately began the administration of digitalis.

With regard to the significance of casts, Dr. Tyson thought Charcot had either been erroneously reported in the book published as lectures by him on Bright's disease, or he was grossly in error in his views as to the significance of casts.

He thought much time was saved by using a low power as a finder in searching for casts. To do this satisfactorily, every microscope should be provided with a double nose-piece.

He doubted whether mucous casts came from the prostate: they were too long and bifurcated. They have no practical significance. For the preservation of casts in urine which was to be transported for some distance, he preferred salicylic acid, of which not more than a pinch should be added to four ounces of urine.

Dr. Formad said that he had observed hyaline casts to become granular after a few days; he had no doubt that in many cases in which granular casts had been reported they were simply hyaline casts which had undergone change through the deposition in them

* See Stellwag, Augenheilkunde, S. 613, 626.

of collections of bacteria (*Micrococcus ureæ*), which are difficult to distinguish from granules of fat. Mucous casts come from the bladder and sometimes from the urethra or vagina, and may be artificially produced by adding saliva to urine.

Dr. Neff said that sometimes casts entangled crystals and looked like dark granular casts.

Dr. Richardson, in reply to a question, said that not only pus, but effused blood and change of blood-pressure in the kidneys, might make urine albuminous.

Dr. Henry inquired if the administration of alkali in phosphatic diathesis produced more deposit than could be ascribed to the direct action of the alkali itself.

Dr. J. C. Wilson asked if sodium urate might not show yellow stain.

Dr. O'Hara expressed his thanks for the labors of the committee and the gentlemen who had given these practical exhibitions of the usefulness of the microscope in clinical medicine. He could not see how a person in active practice could get along without using the microscope freely in examination of vomited matters; and in the diagnosis and treatment of kidney diseases which affected the general system, inducing anomalous symptoms and disturbances of other organs through the poisoned blood, it was often the only means of diagnosis and prognosis. Casts without albumen he found very common. They accompany poor health, dyspepsia, etc., and their value for diagnosis remains to be determined. He has been surprised to find how common casts are in modern life, very often accompanied with the uric acid diathesis and in some cases relieved by treatment. It requires, as Dr. Richardson says, much constant examination; but he feared few physicians in active practice could examine the urine daily while treating patients, for he found that frequently one specimen of urine would take him, to do full justice, a half-hour. It takes much time to examine under a high power, and in a doubtful case he would not rely upon the examination with low powers. He often found casts in cases and made no mention of it to the patients; one, a gentleman over eighty, who had almost perfect health for that age, and who had passed recently some large phosphatic calculi. In this case he considered there was some chronic catarrh of the tubuli uriniferi to explain the casts. He had an idea that lithæmia, as spoken of by Dr. Da Costa in the *American Journal of the Medical Sciences* for October, 1881, was often the forerunner of Bright's disease, and if early attention were given to diet, baths, avoidance of exposure to extreme climatic influences, etc., many of these insidious Bright's diseases might be detected and cured. Many of the symptoms narrated as caused by lithæmia were those of latent Bright's disease, according to his experience.

Dr. Tyson said that sodium urate might show yellow coloration, but is generally amorphous. In bulk it is well known to be red, while in the layers it would appear yellow.

In reference to the action of alkalies, he thought that the greater the alkalinity the greater the deposit of phosphates. In using benzoic acid he always gave it in compressed pills of five grains each, giving from three to five pills per day.

Dr. J. C. Wilson presented a specimen of malignant growth of the thyroid body. The patient, a woman, aged 80 years, was first seen on the 8th of December last. She had enlargement of thyroid, with difficulty in swallowing but not in respiration. The symptoms had existed about four months. The enlargement was smooth and symmetrical, three and a half inches in diameter. It grew rapidly, and the difficulty in swallowing increased. The tumor was elastic, and gave to the touch the impression of a tense cyst. After consultation with Dr. Cohen, the tumor was opened and a seton drawn through. The openings allowed the escape of a thin, clear fluid with white flakes. For ten days after insertion of the seton the tumor continued to discharge, but did not increase; after this time rapid increase began, and the patient died January 31. Examination showed it to be a rare affection, — a malignant tumor of the thyroid body.

Dr. Seiler said that the patient had applied at the dispensary of the University, and that he had suspected the malignant nature of the growth. He had never encountered a case of primary malignant growth of the thyroid in literature, but had presented a specimen of spindle-celled sarcoma of the gland several years ago to the Pathological Society of Philadelphia.

Dr. Cohen said that it was not possible to say positively that the tumor was primary in its malignant character.

Dr. Wilson said that no clinical evidence of malignant growth elsewhere had been discovered, although search had been made. He regretted that circumstances have rendered a complete post-mortem examination impracticable.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, FEBRUARY 9, 1882.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Case of *papilloma of the bladder*. Exhibited by Dr. H. F. FORMAD.

DR. FORMAD said that this case, while pursuing only the ordinary course of such a disease, and thus being presented without detailed history, was of great interest, since the diagnosis of its nature was made by the microscope. The sediment of the

urine when placed beneath the microscope showed many little tips of mucoid tissue, coated with a delicate cylindrical epithelium, which were evidently the terminal points of the dendritic growths.

Dr. TYSON said that he had now a case under observation of suspected papilloma of the bladder, where repeated microscopical examinations had failed to reveal anything characteristic, although the rational signs, such as hemorrhage, etc., clearly indicated some such neoplasm. He had made the diagnosis of papilloma of the rectum, however, by the microscopical examination of the dejecta.

Dr. HAZLEHURST recalled the account of a case published in the *Archives of Medicine*, where the microscope had determined the diagnosis.

Dr. NANCREDE made some remarks on the close resemblance, as far as microscopic appearances went, of the so-called adenoid and carcinomatous growths of the rectum, and pointed out that, as Dr. Van Buren has shown, the more sessile a growth is the more likely is it to prove malignant irrespective of its histological structure, and, *vice versa*, the same arrangement of cells, stroma, etc., in a markedly pedunculated growth clinically means benignity.

Dr. TYSON said that the history of this case, as well as others seen by him, proves most clearly what has been repeatedly adverted to in this Society, viz.,—that, howsoever malignant an internal growth may be, it does not produce *cachexia*, except when involving some one of the vital organs concerned in *nutrition*, unless, of course, inducing this condition by repeated hemorrhages or profuse discharges.

Dr. BARTON thought that if the urine were examined immediately after an attack of hemorrhage, fragments of the growth might more frequently be detected.

Dr. TYSON demurred to this, since the blood would necessarily interfere with the examination.

Calcification of the bladder. Exhibited by Dr. FORMAD.

Dr. FORMAD said that Dr. Dixon had asked him to present this specimen for him without history, since the condition was only accidentally found during the post-mortem examination of a man who died of phthisis. No bladder-symptoms had at any time been noticed, yet it seemed almost impossible that an organ with apparently a completely calcareously degenerated lining membrane could have performed its functions so well as not to have had any attention called to its functional insufficiency.

Fatty heart from a case of progressive pernicious or idiopathic anæmia. By Dr. J. H. MUSSER.

As the notes of this case will be published elsewhere, with the Society's permission I shall only detail sufficient of them to show this to

be a true example of that most interesting disease.

Female, æt. 46, menopause six months previous to illness; gave birth to a six-months child twenty years ago; though twice married, never again became pregnant; failing in health and changing color past three years, but in bed only four weeks; entire length of time in bed, seven weeks.

She was under my care three weeks. The marked symptoms and features of the case were, briefly, as follows: Extreme anæmia; very little emaciation; earthy hue of skin; pallor of mucous membranes; irregular fever; acid perspirations; disturbed vision; subjective lights and noises; retinal hemorrhages; breathlessness; poor appetite; nausea and vomiting; constipation; slight enlargement of spleen; no enlarged glands; pulse rapid, small, and feeble; cardiac, arterial, and venous murmurs; no albuminuria; blood light-colored; corpuscles small, irregular; 715,000 red cells to a cubic millimetre, 15,000 white cells,—1 white to 47 red. Subsequently drowsiness and stupor set in, with delirium and coma, and death ensued.

Quantitative and qualitative analyses of the urine and blood were made, and will be published hereafter.

Post-mortem, twenty-four hours after death.—There were the usual appearances of the tissues, and I will only note, in addition to the appearances of the heart, that there were sub-peritoneal and pericardial ecchymoses; that the spleen was slightly enlarged, the liver fatty, the lymphatics normal, marrow of bone from radius and sternum healthy; brain not examined.

In pulmonary vein, black clot; in aorta and pulmonary artery, a soft yellow clot; in the cava, a soft red-brown clot, with black specks intermingled. The heart was pale, soft, flabby, and extremely fatty. The degeneration was more marked on the right side; along the septa and the vessels, in spots, there were areas of capillary injection. The right auricular wall was very thin, striæ of muscular fibres being replaced by fat, while other striæ seemed to be destroyed, so that parts of the wall were transparent, connective tissue forming the limiting membrane. The left side was similarly affected, but not in so intense a degree, there being only a diffuse yellowish discoloration. The papillary muscles of both cavities were markedly changed, the fatty change being shown by innumerable yellow dots. The right heart contained soft, semi-fluid, red-brown clots; the left, soft yellow clots. The aorta was a millimetre in width at the heart, and at the celiac axis admitted the little finger only.

I will report to the Society the results of a complete microscopical examination of all the organs.

Dr. FORMAD said that the microscopic examination of the bone-marrow revealed no

changes such as he had observed in other cases of pernicious anæmia.

Dr. TYSON referred to Dr. Pepper's first paper on this disease, which he there had termed myelogenic leukæmia, wherein he showed that this affection was always accompanied by medullary changes. In view of this fact, he was inclined to think that Dr. Musser's case should not be considered as a typical one of pernicious anæmia.

THURSDAY EVENING, FEBRUARY 23, 1882.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Rupture of fatty heart. By Dr. J. M. BARTON.

I SAW Mr. H. for the first time on January 27. He complained of having had some pains in the stomach, but they had disappeared by the time of my arrival. Two days later he had a return of his pains; they were more severe than before, and were referred to the region of the diaphragm, with some shooting pains in the back. He was nauseated, and had vomited several times; his pulse was 148 to the minute, rather feeble, but regular and steady; it did not intermit, and its beats seemed to be all of equal force. The next morning he was much improved, the pain and other symptoms having been controlled by a small dose of morphia, and, with the exception of a pulse of 104, fuller and stronger than the night previous, he did not present an abnormal symptom. He had eaten a fair breakfast, and was enjoying a pipe and the morning paper at the time of my visit. During the next two days he had occasional slight pains of the same character, not sufficiently severe to interfere with his appetite or sleep. On the third day, after an unusually hearty breakfast and dinner, he died suddenly, without premonitory symptoms.

On post-mortem examination, the cavity of the pericardium contained about five ounces of clotted blood. A rupture of the left ventricle at the apex was found.

The walls of the ventricle were pale in color, very soft and friable, and much thinned at the apex. The cavity was filled with fluid and clotted blood; the track of the rupture was sinuous and dilated in portions of its course; there were blood-stains under the visceral layer of the pericardium, about one inch around the point of rupture.

Dr. NEFF said that he would like to know whether Dr. Barton had any reason to think that the rupture had occurred some time before death, and, if so, upon what he founded his opinion. He had made the post-mortem examination of a case in an old woman who had survived the rupture several days. The amount found in the pericardial sac had varied, in the cases examined by him, from a few drachms to a pint or more. From these facts he did not think that it was the amount of fluid

in the pericardial sac which caused death by interfering with the heart's action, since much larger quantities were often found in cases of pericarditis: where a large quantity of blood was effused, he was inclined to attribute death to cerebral anæmia; where a small quantity was at first poured out, the initial faintness was clearly due to shock, while if, later on, a large amount of blood found entrance into the pericardial sac, death then resulted from cerebral anæmia. All the cases examined by him showed what is usually found in the books,—viz., that the rupture was situated in the left ventricle, and usually at its middle and thickest part. A number of his cases had been produced by straining at stool.

Dr. BARTON thought that the pericardiac pain, which also extended to the back, and the rapid pulse were produced by the permanent effusion of a small quantity of blood, which afterwards became augmented. He would call Dr. Neff's attention to the fact that the fluid effused in pericarditis usually collected *slowly*, while the amount suddenly poured out in cardiac rupture was often large, when compression of the organ was inevitable.

Dr. NEFF thought that in such cases cerebral anæmia would occur before pressure could take place.

Dr. GROSS thought that the amount usually present, from six to sixteen ounces of blood, was not enough to induce cerebral anæmia.

Dr. F. P. HENRY thought that cerebral anæmia might well be excluded from the consideration of the causes of death in cases of rupture of the heart. No one cause was solely operative, three at least being concerned. These were—1, nervous shock, general and local; 2, interference with the heart's action from the presence of a foreign body suddenly introduced into the pericardial sac; and, 3, interference with the heart's action from division of its muscular layers. These three causes, he thought, were amply sufficient to account for death in such cases.

Scirrhus carcinoma of mammary gland. Exhibited by Dr. J. M. BARTON.

Mrs. C. L., æt. 50 years, is the mother of twelve children, the youngest now eight years old, and still occasionally menstruates. There has been no cancer in the family history as far back as the great-grandparents. One year ago the tumor appeared below and to the outside of the right nipple; it had not been preceded by any injury that the patient is aware of, though she had suffered at her first pregnancy, thirty years ago, with abscesses of both breasts. At the time of operation the breast was much larger than the normal one: the growth, surrounded by a large amount of adipose tissue, appeared the size of the adult fist, and was freely movable over the deeper structures.

The nipple was retracted, and numerous small points of dimpling were noticed in the skin, and were also found over the healthy

breast. The superficial veins, as well as the lymphatics, were enlarged. Eight or ten of the latter, each enlarged to the size of a crow-quill, radiated from the centre of the breast to its margin. The entire mammary gland, as well as a large portion of the surrounding tissue, I removed, at the German Hospital, on the 3d of the present month. The incision was carried into the axilla, and an enlarged lymphatic gland, not before discovered, was also removed.

Cancerous degeneration of fibro-myomata of uterus, with metastatic growths in brain, etc.

Exhibited by Dr. J. M. BARTON.

Mrs. R., æt. 42 years, mother of three children, the youngest now fifteen years of age, first noticed a tumor in the right iliac fossa ten years ago. In 1877, when she first came under my care, she had an enlarged abdomen, full of fluid. After tapping, on September 17, 1877, and drawing off thirty-four pints of straw-colored fluid, I found an irregular mass firmly bound in the right iliac fossa, reaching to the median line and as high as the umbilicus. It was connected with the uterus, into which I was able to pass a sound to the depth of five and one-half inches, and subsequently to the depth of nine and one-half inches. Before tapping, the intestines did not float upon the surface of the fluid, but were bound to the posterior wall of the abdomen, and could be felt as a doughy mass after the fluid was removed. The diagnosis was fibroid tumor of the uterus, while the fluid and position of the intestines were regarded as due to a coexisting chronic peritonitis. Each menstrual epoch was prolonged, and the blood lost was much in excess of the normal amount: on several occasions it was so profuse as to necessitate tamponing of the vagina. The fluid rapidly reaccumulated, and I again tapped her on January 12, April 12, July 17, and November 16, 1878, and on July 8, 1879, and again on January 15, 1882, removing each time, except the last, from twelve to eighteen quarts of fluid.

During 1878 several small cysts ruptured into the abdominal cavity. The patient, while attending to some domestic duties, would have severe pain in the abdomen, fainting, feeble, and rapid pulse, pallor of countenance, and other evidences of loss of blood. After remaining in bed for several days, her strength would return, and at the next tapping the fluid would be mixed with dark grumous blood.

While taking ergot steadily, the uterine tumor decreased in size, the hemorrhages ceased, the general health improved, and the fluid accumulated much less rapidly. After the tapping in 1879, she enjoyed good health, and was able to attend actively to her household duties, until the latter part of 1881, when she had an offensive discharge from the vagina, rapid pulse, loss of appetite, etc. She improved under treatment, but, as the dis-

tended abdomen interfered with respiration, I tapped her in January with a large aspirator needle, three and a half inches to the left of the umbilicus, drawing off only three quarts of dark, bloody fluid. It was then found that the solid growth had much increased, and was two inches greater in each diameter than ever before. Above the solid growth was a large, fluctuating, circumscribed mass.

About the first of the year three small, rapidly-growing, semi-solid tumors appeared, one on the forehead, one on the right forearm, and one on the left arm below the axilla.

About the 1st of February, though still quite strong enough to walk about the house, the patient's mind became suddenly affected; there were some delusions; her memory could not be relied on even regarding events occurring but a few minutes before. She would frequently fail to understand the simplest question, and would repeat her unmeaning reply again and again. On the 12th paralysis of the right arm occurred, on the 15th she became comatose, and on the 16th she died.

Post-mortem.—The uterine tumor, besides its normal attachments, had fastened itself to a small portion of the abdominal wall at the umbilicus, and to the omentum. The lymphatics of this portion of the omentum are filled with material resembling the metastatic growths. The posterior lobes of both the right and left halves of the cerebrum have in each a tumor the size of a walnut; the dura mater has also a deposit about an inch in diameter, opposite the middle of the sagittal suture. The skull was affected at the same point, a small nodule attracting attention while separating the scalp. The intestines were firmly bound to the posterior portion of the abdominal walls by old adhesions.

I here present the uterine tumor, the omentum with enlarged lymphatics, the two posterior lobes of the cerebrum, a portion of the dura mater, and one of the superficial tumors.

Dr. GROSS did not think it possible that a fibro-myoma could undergo carcinomatous degeneration, and would therefore refer the specimen to the Committee on Morbid Growths for a more exhaustive examination.

The brain of a negro murderer. Exhibited by Dr. CHARLES K. MILLS.

The brain exhibited was from a negro who had committed a murder nearly thirty years ago. He was tried, convicted, and sentenced to death, but the Governors of the State would not sign the warrant for his execution. He was pardoned about five years before his death, subsequent to the appearance of paralysis of the left side. He was a quarrelsome drinking man before the commission of the murder, and a fair representative of the criminal class. The paralysis of the left side of the face, and of the left arm and leg, gradually became more profound.

The right hemisphere of the cerebrum and the left hemisphere of the cerebellum were

markedly atrophied. The atrophy was most marked in the motor region of the convolutions, particularly in the ascending convolutions. A hard, brownish-black nodule was found isolated in the superior upper portion of the pons Varolii, to the right of the median line. Both cerebral hemispheres showed a decided excess of fissure and deficiency in gyrus development, with a tendency at numerous points to confluence of fissures. Some remarks were made on the physiological significance of atrophy of the *right* hemisphere of the cerebrum and the *left* hemisphere of the cerebellum, and also on the views of Benedikt that the brains of criminals are of the confluent fissure type. The brain was referred to the Committee on Morbid Growths for microscopical examination, and Dr. Mills expressed his intention of recording the case in detail at some future time.

Dr. F. P. HENRY referred to a case of bilateral atrophy of the superior and inferior parietal convolutions reported in the February number of the *Archives of Medicine* by Dr. J. C. Shaw. With the exception of being bilateral, the lesion closely resembled that of the specimen just exhibited. The case presented symptoms of mania, epileptiform convulsions, and slight paralysis, but its greatest interest consisted in the fact of its corroborating some recent experiments of Ferrier, made with a view to determine the situation of certain sensory centres, particularly those of vision and hearing. For full particulars Dr. Henry referred those interested in the subject to the article in the *Archives*.

Femoral artery from a case of amputation at the hip-joint. Exhibited by Dr. NANCREDE.

John A., æt. 21 years, a Swede, arrived in this port 4 A.M. February 22, 1882. While shifting the tow-rope, the rope slipped from the bitts, and, the tug steaming rapidly ahead, his left thigh was caught in the bight of a seven-inch hawser, which produced a compound comminuted fracture of the upper third of the thigh, with rupture of the inner coats of the superficial femoral artery. The left testicle had also been torn out of the scrotum, and had slipped up under the skin of the groin. My resident, Dr. Neilson, promptly etherized the patient, replaced the testicle, suturing the scrotum, and awaited my arrival. I saw him about 12.15 P.M., and found him in an astonishingly good condition, although suffering considerable pain. The limb was evidently hopelessly disorganized in its upper third, nothing but the skin apparently being left in front and on either side. A large part of this detached skin was already dry and horny, looking like that of a cadaver after the removal of the epithelium permits drying of the integument. The superficial femoral could be felt pulsating strongly to about the upper opening of the canal through the adductor magnus, when all trace of it was lost. The limb from this point down was cold

and tallowy-looking, with no trace of circulation in the popliteal or either tibial. Contusion extended up a little above Poupart's ligament in front, and over the back and outer part of the buttock.

Death being inevitable if left unrelieved in this condition, I first tied the femoral, and then, after applying an extemporized abdominal tourniquet, which was practically valueless, I rapidly disarticulated the limb, consuming probably not more than a minute in the operation. On account of the shortness of the fragment of the femur, its disarticulation took longer than usual. Owing to the promptness and efficiency of my friend Dr. Knight and my medical colleague Dr. Bennett, who happened to be present, and the skill of my resident, Dr. Neilson, aided by Dr. Watson, not more than five or six fluidounces of blood were lost. The patient bore the operation singularly well at first, but about half an hour after its completion he suddenly vomited profusely, the pulse ceased at the wrist, and it was only after two hours' work with whiskey, turpentine enemata, hypodermic ether injections, sinapisms over the heart, etc., that he reacted. This morning his condition was fair, with a warm skin, pulse about 120, with fair volume, skin-flaps sloughing in one or two places. He has vomited twice since the operation, but not for some hours. Part of the flaps apparently united; but little oozing.

PHILADELPHIA ACADEMY OF SURGERY.

MEETING OF APRIL 3, 1882.

The PRESIDENT, DR. S. D. GROSS, in the chair.

PENETRATING DAGGER-WOUND OF THE SKULL
—TREPHINING—RECOVERY, WITH HEMIPLEGIA.

THE following case, reported by Dr. Allis, occurred in the practice of Dr. W. P. Painter when residing in Yuma, Arizona:

A Chilean, 35 years of age, in an altercation, received a dagger-wound at a point in the left side of the head corresponding very nearly to the anterior inferior angle of the parietal bone. Dr. Painter was called to see him immediately, and, finding no injury and supposing him to be drunk, ordered him to be taken home. As he was being removed, symptoms of hemiplegia were noticed, and on more careful examination the wound was found, and a probe gently passed through it in the skull.

Dr. Painter would have trephined at once, as all the symptoms of compression were present; but a delay of ten hours was unavoidable. On removing the disk of bone that included the impression of the blade, an ounce or more of dark unclotted blood escaped, but from what precise point it was not ascertained. On recovering from the ether the right arm was noticed to move, and in a

week's time he was able to walk with a cane. He died three months afterwards from small-pox, but during the interim he showed gradual improvement, though at no time able to speak fluently, or to walk without a slight halt.

Dr. Hunt related a case that he had reported some years ago. A lad was injured by the prongs of a machine used in combing hemp. Three of the prongs penetrated deeply into the brain. At the same time there were lacerated wounds of the arm produced by the machine. Paralysis and tetanus existed simultaneously in the case, the former having a central and the latter a peripheral origin. The boy lived but a day or two after the appearance of the tetanus.

Dr. Brinton related a case which had recently been under his observation, in which, by a blow from a fly-wheel, an arched fracture of the frontal bone had been produced, which extended from one external angular process to the other. The lower portion of the bone had been forced backward, and was firmly held in that position by the overriding of the lower edge of the upper fragment. The unlocking of the fragments could be accomplished only after a free use of the saw along almost the entire line of fracture. The elevation of the bone was accompanied by a peculiar suction-sound, and was followed by a very rapid relief to the embarrassed pulse and respiration. The patient has since done well.

Dr. Brinton further related the case of a boy 8 or 9 years of age, whom he had treated some years since, and who had been kicked by a trooper's horse. There was much fracture and depression over the central portion of the occipital bone. On elevation of the fragments, great venous hemorrhage occurred, and on examination it was found that a spiculum of bone had been driven through the external wall of the lateral sinus. The external bony case was carefully picked away, so as to permit the edges of the rent in the walls of the sinus to be grasped by a delicate toothed forceps. A fine ligature was then applied laterally, and the bleeding was thus controlled. The wound was then closed, and the child made a rapid recovery, without further accident.

Dr. Barton stated that a man was brought to the German Hospital the third day after a penetrating wound of the skull. The wound had been inflicted with a pocket-knife, and the blade had entered the skull at least an inch. Up to the third day there were no symptoms to indicate so serious an injury, but subsequently those indicating inflammatory changes set in, to relieve which the trephine was employed, but death supervened.

Dr. Agnew presented a case of cicatricial deformity from a deep burn in a colored boy 19 years of age. Seven years before, he had burned himself about the wrist, and the resulting cicatrix had firmly bound his entire left thumb to the wrist in such a manner that

the thumb crossed the wrist obliquely, the end of the thumb lying on the ulnar side of the wrist and about three inches above it. Having first freed the thumb from its attachments, and having elevated it to its normal position, the wrist was carried to the side of the body, where a flap five inches in length and four inches in breadth was raised from the abdomen, of sufficient size to cover the denuded wrist. At the end of three weeks the connection was severed. The graft upon the wrist was almost entirely united at the time the patient was exhibited, but the sensation in it was still very imperfect.

Dr. Agnew presented a lad 18 years of age, upon whom he had operated for exstrophy of the bladder. By means of two lateral inguinal flaps turned upward and inward, and a central abdominal flap turned downward, the abdominal deficiency had been in a great measure supplied, and the dribbling of urine limited to the region of the normal outlet. He remarked, also, that the groove on the dorsum of the penis acted as a channel to the urine, serving to conduct it to an artificial receptacle.

The Chair, having stated that Dr. Joseph Pancoast was the first to ameliorate by a surgical operation the disgusting accompaniments of this malady, called upon his son to open the discussion.

Dr. Pancoast stated that it had always been a great desideratum to establish an independent outlet for the urine and subsequently to cover in the entire anterior wall of the bladder. With this in view, and acting upon the suggestion of Dr. Levis, he had passed a needle into the rectum, and had left a ligature at the point where he wished to establish a fistule. There were no subsequent untoward symptoms, but the lad, just as he was ready for the plastic operation, ran away, and he lost sight of him.

Dr. John B. Roberts stated that he had assisted Dr. Levis, and that his plan was to establish a perineal urethra before attempting the plastic operation. This he did by carrying a needle from the *bas-fond* of the bladder to a desirable point in the perineum and inserting a gum bougie. This was from time to time removed and a larger one inserted. As soon as the perineal urethra was sufficiently formed, the plastic operation was performed. This consisted in forming a scrotal flap and in turning the rudimentary penis into and in making a complete anterior wall to the bladder.

Both cases died *after* the plastic operation, with symptoms of septicæmia, but in neither were there any contra-indications to the preliminary operation.

Dr. S. W. Gross asked Dr. Roberts what the advantages of the preliminary operation of Dr. Levis were over those operated upon as in the case just exhibited. He (Dr. Gross) could see advantages that might accrue from establishing a vesico-rectal fistule and converting the rectum into a temporary receptacle

for the urine; but these were not apparent in the operation described by Dr. Roberts.

Dr. Roberts replied (1) that it prevented infiltration of urine between the flaps of the subsequent plastic operation; (2) that it was better designed for the application of a receptacle to catch the urine; (3) that it allowed the flap taken from the scrotum to be made without perforation for the escape of urine.

AMPUTATION AT THE KNEE-JOINT AND AT THE KNEE.

In bringing this subject before the Academy for discussion, Dr. Brinton first alluded to the history of amputation at the knee-joint. The operation is by no means a novel one, for it is described as having been performed in some sort two hundred years ago. It fell, however, into disuse, and was not revived until the time of Velpeau, who in 1829 published the records of fourteen cases, with thirteen cures. In 1832 the same writer, in his treatise on operative surgery, stated that he feared he might have exaggerated the safety of the operation, but that it remained proved that the objections which had been made against it have no solid foundation. The first amputation at the knee-joint performed in America was made successfully by Dr. Nathan Smith, of Connecticut, in April, 1824, for long-standing disease of the bones and soft parts of the leg. In 1841 the operation was successfully performed by Dr. Pancoast, of Philadelphia. In 1852 Dr. Stephen Smith, of New York, published in the *New York Journal of Medicine* an excellent article on the subject, and in January, 1856, Dr. Markoe published in the same journal his admirable paper on amputation of the knee-joint, and in the November number of the same journal an article entitled "Syme's Amputation through the Knee in Chronic Disease of the Joint." In May, 1845, Mr. Syme published in the *London and Edinburgh Monthly Journal of the Medical Sciences* an article upon amputation of the knee. In 1864 Mr. Carden, of Worcester, published in the *British Medical Journal* a paper on amputation at the knee as practised by him since 1846. In March, 1868, Dr. Markoe published in the *New York Medical Journal* an elaborate essay on amputation at the knee-joint, and in April, 1868, the speaker presented in the *American Journal of the Medical Sciences* an extended paper on the same subject, embodying the reports and results of one hundred and sixty-four cases of this operation at the hands of American and European surgeons. A most excellent and comprehensive essay on the same subject was read by Mr. George Pollock, F.R.C.S., Surgeon to St. George's Hospital, before the Medico-Chirurgical Society of London, December 14, 1869, and was printed in the volume of their Transactions for 1870.

The speaker then alluded to the different varieties of amputation at the knee-joint and

the knee: first, those of the knee-joint proper, pure disarticulation, in which the cartilages covering the condyles were undisturbed; secondly, those in which the cartilages were removed; thirdly, those in which the condyles in part, one or both, were sawn off; and, fourthly, where the amputation was performed above the joint and below the diaphyso-epiphyseal line, more or less according to the method of Syme and Carden. By the former the flap was made from the calf-muscles; by the latter, from the integuments in front of the joint. By both the patella was taken away. Neither of these operations could be looked upon as amputations at the knee-joint; strictly speaking, they are amputations of the knee, and by the removal of the patella and the comparatively high division of the bone new factors, influencing the dangers and success of the operation, are introduced.

Dr. Brinton then stated that in endeavoring to arrive at the true value of knee-joint amputation several points are to be considered: first, what is the mortality-rate of the operation, and how does this rate compare with the rates of thigh- and leg-amputations? secondly, to what cases is knee-joint amputation applicable? thirdly, what are the dangers of the operation, and how can they be avoided? fourthly, what is the nature of the resulting stump? and, fifthly, what mode of operation promises best?

As to the rate of mortality, the speaker stated that in April, 1868, he had collected and published one hundred and seventeen cases of knee-joint amputations practised by American surgeons. The death-rates were, for primary amputations after accident, forty-four per cent.; secondary after accident, forty-two per cent.; secondary for disease, less than seventeen per cent.,—in the one hundred and seventeen cases an average mortality of about thirty-four per cent. In one hundred and sixty-four cases, the aggregate of American and European operations, collected and published at the same time, the death-rate after primary amputation for accident was 42.37 per cent.; secondary after accident, 37.83 per cent.; secondary after disease, 22.58 per cent.,—a general mortality-rate of 32.31 per cent.

Mr. George Pollock, in his paper on amputation at the knee-joint, already referred to, reports forty-eight British cases of the operation, of which thirteen were fatal and thirty-five recovered; and in his tabulations he places with these forty-five American cases reported by the speaker, of which thirteen died and thirty-two recovered,—thus making a total of ninety-three cases in which full histories are on file, showing a death-rate of 27.97. Mr. James Lane, in his table published in Cooper's Surgical Dictionary, presents sixty cases of knee-joint amputation, with a death-rate of 35.

Regarding the mass of the figures thus pre-

sented to the Academy, and which are probably practically correct, it would seem as if the average death-rate of amputation at the knee-joint, under favorable circumstances, is somewhere in the neighborhood of from thirty to thirty-two per cent. It will be seen that this percentage of death is much below that of amputation in the continuity of the thigh, and probably does not exceed, if indeed it equals, the death-rate of amputation performed through the upper third of the leg in the neighborhood of the knee-joint.

The second question is, to what class of cases and when is amputation at the knee-joint applicable? In a general sense, the answer can be thus given: to very many cases of injury or disease in which hitherto amputation of the thigh in its lower or middle third has been practised. In this category would be included—1, crushed, compound, or gunshot fractures of the leg bones, extending up to or involving the knee-joint; 2, gunshot wounds of the knee-joint; 3, gangrene of the leg, the result of injury to the great vessels or nerves; 4, chronic or irreparable diseases of the bones, or tumors of the leg; 5, degeneration of the knee-joint.

The third question is as to the *dangers of the operation at the knee-joint*. This is in part answered by the statistics. Disarticulation at the knee may be justly assumed to be a far less dangerous operation than thigh amputation, no matter how far down the latter may be made. In all amputations there is shock, but in the disarticulation in question this is diminished in great degree,—why, it may be difficult to explain. It may be due to the slight muscular section, or to the preservation of the continuity of the shaft and medullary cavity of the femur, or to both; but the fact of this diminished shock remains. Then, too, there is less likelihood of pyæmic poisoning, since the cancellated and medullary structures are spared, and as a consequence there is a lessened chance of the development of osteo-myelitis, so deadly in its influences. Synovial inflammation was at one time a phantom fear of surgeons after this operation; but it is in truth but a phantom, for why should synovitis be feared when the joint ceases to be a closed cavity, when the operation destroys the articulation, and when in a few hours every trace of synovial structure disappears? There is, however, one source of danger which should be noted as occurring after amputation at the knee-joint: this is inflammation of the sheaths of the thigh tendons, especially of that of the biceps, and the inflammation of the bursa over the patella. These conditions occur between the second and fifth day, and are sometimes so severe as to threaten the patient's life. The swelling of the stump is marked by great tenderness, pain on pressure, arrest of discharges, and considerable constitutional disturbance. The treatment should be early and

free evacuation of the abscesses and proper constitutional support.

Fourthly, the *character of the stump* after amputation of the knee-joint. This is usually a good one, especially if the flap be obtained from the front of the knee, if the patella be left, and if the round tendon of the adductor magnus be preserved. If this be done, it will be found that the stump will possess much power of rotary motion, and will in every respect be a useful stump in after-life.

Fifthly, as to the character of the operation itself. In many cases, of course, the nature of the lesion influences the character of the stump-coverings; but, where the surgeon is permitted the election, it would seem as if the best results are obtained by forming a long anterior integumental flap, by the preservation of the patella, and by leaving the condyles intact.

Where, from the nature of the case, there must be some insufficiency of flap-coverings, Dr. Brinton stated that the projections of the condyles might be carefully sawn off, but that probably the best results were obtained where they were left, and in this opinion Mr. Pollock, of St. George's Hospital, concurs. Where the cartilage covering the condyles is left, it disappears in one of two ways. Sometimes it softens, becomes thinner, and disappears molecularly, the vessels on the end of the bone beneath the softening cartilage gradually becoming more distinct, and serving as the support for granulations of rapid growth, which spring from the bone to coalesce with other growths from the soft tissues of the intercondyloid notch. In other cases the articular cartilage, if exposed, softens, becomes sodden, and between the fifteenth and twentieth day separates in layers from the bone, and may be drawn away by the forceps. Granulation, as already alluded to, then takes place. The cicatrix, after operation by the long anterior integumental flap, is usually drawn up on the posterior portion of the stump, and is not exposed to any pressure in the after-adjustment of an artificial limb. Lateral flaps afford good covering for the condyles and favor drainage, but the cicatrix is apt to fall on a line of future pressure. Whatever operation may be done, full and complete drainage must be vigorously established.

In closing his remarks, Dr. Brinton pointed out the propriety of dividing the popliteal artery on a line with the articulation, cutting it off, in fact, short, and, if possible, above the point of origin of the azygos and inferior articular arteries, which are distributed to the soft tissues of the interior of the joint. He stated that one of the most annoying features in knee-joint amputation is the occasional secondary oozing from the vessels distributed to the intercondyloid tissues. Minute at the time of operation, these vessels often enlarge afterwards, and give rise to obstinate secondary bleedings. The heads of the gastrocnemius

should be removed: they fit awkwardly upon the stump and give rise to suppuration. The popliteal vein, the speaker stated, should always be tied. Experience has shown that this vein is peculiarly apt to gape and bleed, —whether from the firmness of the tissues by which it is surrounded, its numerous branches, or, as has been suggested by Mr. Carden, the jar of the popliteal pulsation, cannot be determined. As a clinical fact, ligation prevents all bleeding, and, to the speaker's knowledge, had never given rise to any untoward results.

Dr. Pancoast said that he had operated twice, in each case forming three flaps. In each the posterior junction of flaps gave a capital outlet for pus. In the second case this mode was compulsory, as amputation was required on account of a tumor. The flaps fell, and the joint was exposed. An instructive point was that the cartilages did not inflame, but seemed to melt or dissolve away as if from maceration. He had scraped them away, and not a tinge of blood followed until the proximity of the bone was reached.

Dr. Hewson preferred Teale's anterior-flap operation. His guide in its length was half the circumference of the limb at the point of amputation. The posterior flap was proportionately short, being one-quarter the long flap. Dr. Hewson's plan was to saw off the condyles, taking care never to go above the line of the epicondyles, and always to remove more from the inner than from the outer condyle; then, denuding the patella and intratrochlear surfaces of their cartilages, and arresting hemorrhage by torsion, he adjusted the flaps by a gauze and collodion dressing, and completed the whole by the application of earth. His results had been uniformly successful and yielded a good and serviceable stump. During the process of healing, he had kept the thigh flexed, and so readily secured the fixing of the patella in the intratrochlear space and got its firm union there to the os femoris.

Dr. Hunt said that in his experience as to knee-joint operations the great thing to be avoided is retraction of the flaps and projection of the condyles. He had seen this occur frequently after the greatest care to prevent it had been taken. The same thing occurs in other amputations, but the mass of bone to deal with when things go wrong is much greater and requires more radical procedure in the secondary operations.

In regard to fixing the patella, the Chair stated that he would, if necessary, unhesitatingly pin the patella to the intercondyloid space. This could be easily done by means of a nickel-plated steel screw, the size of an ordinary gimlet, and such a procedure would prevent all possibility of upward displacement of the bone by the action of the extensor muscles.

Dr. Agnew said that if a single anatomical point in the amputation were borne in mind, the whole difficulty of uncovering and expo-

sure of the condyles would be obviated. In making the anterior flap the incision should never be carried above the line of the articulation. If this rule is borne in mind, and the anterior flap carried to one inch below the tubercle of the tibia, there will be no undue traction upon the flap. He was an advocate of the operation through the articulation, and thought it possessed advantages over all other operations in that region.

OSCAR H. ALLIS, M.D.,
Recorder.

NEW YORK ACADEMY OF MEDICINE.

A SPECIAL meeting was held, May 4, 1882, Dr. FORDYCE BARKER, President, in the chair.

The statistic secretary made an informal report on the death of James R. Wood, M.D., which took place on the morning of May 4, of double pneumonia.

Dr. ADAMS read a memoir on the late Dr. Pond, who died in his ninety-first year, and who for twenty-nine years was treasurer of the Academy of Medicine.

ADJOURNED DISCUSSION OF BRIGHT'S DISEASE, SUGGESTED BY THE PAPER OF DR. M'BRIDE.

The discussion was opened by a paper read by Dr. WILLIAM H. DRAPER. The author spoke of the fact as being remarkable that all the affections of the kidney which are now known and bear the name of Bright were recognized by that eminent physician, and his views concerning their etiology and the pathological changes, though differing in some respects from the views entertained by some at present, showed that little or nothing had since been discovered concerning these affections of which he had not, as it were, a foresight. The form of Bright's disease to which Dr. McBride had alluded in his paper doubtless was the large granular kidney, which began so insidiously that never at first were there symptoms which prominently directed the attention to this organ. He was not prepared to say that the so-called parenchymatous forms of renal disease never occurred insidiously, but he was strongly inclined to believe that the cases which seemed to justify this statement were cases of diffuse nephritis in which the granular or interstitial disease was the antecedent condition. Whatever might be the explanation of the mixed forms, it seemed there could be no doubt of the essential element of the granular kidney, or of the fact that this form of disease may pursue an insidious course through many years before manifesting itself by symptoms peculiar to renal disease. Before entering upon the consideration of the early diagnosis of this form of renal disease, he would say a few words with regard to its etiology.

One of the most important factors in the etiology was heredity, as admitted by most

authorities on renal pathology at present. In estimating the influence of heredity, he thought we should take into consideration those vascular forms of disease which were so often associated with granular kidney, though in given instances the lesion of this organ may not have been recognized.

The second factor in the etiology was the existence of the gouty habit, whether inherited or acquired. This relation was generally admitted by the profession, and any difference of opinion concerning it was to be accounted for chiefly by the limited definition which pathological anatomists gave the term gout, it representing to them a specific form of articular disease, while to the clinical observer the gouty habit was seen to produce such correlated phenomena as certain irritations of the nervous system, catarrhal affections of the mucous membrane, exanthematous diseases of the skin, acute and subacute inflammations of synovial membranes, affections of the vascular structure, etc. This, he said, might seem to be making of gout a universal disease, and so he believed it to be, for the reason that it recognized, in certain errors of nutrition, a universal cause.

Another circumstance in the history of granular kidney was senility. It was a disease of advanced, or, more properly speaking, declining years. It was exceedingly rare under twenty, the largest number of cases occurring between fifty and sixty. But the period of senility was not an arbitrary one, measured by years, but rather by recognized signs of degenerations peculiar to old age.

The above facts in the etiology seemed to go to prove that the granular kidney was only a part of a general atrophic process induced either by the limits fixed by heredity, or by the wear and tear of life; that the disease was a general, not a local one. Speaking more in detail of the cardiac and vascular changes, he quoted from Dr. Bright, and remarked that a more rational idea concerning them in most respects could not be offered to-day. The theory that there was a functional stage of the granular kidney which preceded, perhaps for many years, any permanent lesion, was believed in by many observers.

In directing attention to the early diagnosis of granular kidney, the chief facts to be considered related to the causes concerned in its production. The ordinary symptoms and signs of renal disease were for the most part indicative of pronounced and probably irretrievable disease. He referred briefly to the significance or lack of significance, in the early diagnosis, of the presence of albumen in the urine, high pulse-tension, and high specific gravity of the urine. He had often found the latter to precede many cases of inflammatory disease. To repeat, the question of early diagnosis depended upon the etiological factors already mentioned,—that of heredity (which was as well established as in phthisis),

the gouty habit, etc.,—and the management of individual cases should be directed accordingly.

DISCUSSION.

Before calling upon members to discuss the subject, the President remarked that he would be pleased to hear more regarding the therapeutics of this affection, both from Dr. Draper and others. With relation to the condition of the heart, he would like their experience as to the indications or the contra-indications for the use of digitalis. In the albuminuria associated with certain acute diseases he had found digitalis to be one of the most valuable cardiac tonics in restoring the function of the kidneys in the elimination of urea; but there was a class of chronic cases in which, it seemed to him, digitalis was specially contra-indicated.

Dr. A. H. SMITH quoted Fothergill, who, he believed, regarded the action of digitalis as a diuretic as due chiefly to increase of the arterial tension. Dr. Smith was very much gratified with the results of the milk diet in the treatment of this class of cases. He also regarded the inhalation of as much oxygen as possible, by being in the open air, as important: whether the inhalation of pure oxygen would answer the same purpose, he could not say. He asked whether fox-hunters, and those much on horseback and out of doors, in England, and who suffered from the gouty habit, were as likely to be troubled with this form of renal disease as those of their countrymen of the gouty habit but of a sedentary disposition.

Dr. VANDERPOEL thought he need not seek further for an explanation of the appearance of albumen in the urine than that based on low blood-tension,—venous stasis. The theories, however, of the lithæmic diathesis and vaso-motor disturbance were suggestive. He considered the term "granular kidney" a misnomer. This lesion occurred only in the progress of a general disease or diathesis, and was not primary. Doubtless the cardiac trouble found in these cases occurred quite as soon as the kidney affection. High pulse-tension probably would not be appreciated before the disease had become established. Indeed, it came on so insidiously that the physician was not consulted before permanent lesions had occurred. High livers, those addicted to alcoholic stimulants, and those of sedentary habits were most likely to be the victims. Digitalis was only a valuable adjuvant in the treatment in the later stages of the affection, when dilatation of the heart had taken the place of hypertrophy.

Dr. KINNICUTT thought the presence of hyaline casts, especially when associated with increased arterial tension, should be regarded as an important sign in the recognition of the early stage of granular kidney, possibly of the stage which had received the

name functional. These casts were present in many cases of lithæmia. Polyuria was also an early and a valuable symptom, and particular care should be taken to measure all the urine passed during several days. He referred to his explanation of the appearance of albumen in the urine as given in a paper read before the Academy.

Dr. BURRALL believed, from notes of cases in his practice, that albuminuria was by no means a frequent concomitant of lithæmia.

Dr. T. A. MCBRIDE said it seemed to him the point of greatest importance in this discussion was with regard to whether we could establish a stage preceding the occurrence of chronic Bright's disease which was characterized by a sufficient number of symptoms to permit of its appreciation. At present our diagnosis of chronic Bright's disease was based mainly upon the low specific gravity of the urine, the quantity of the urine, and the presence of certain casts. If it could be said that there was present before this stage a set of symptoms constantly observed, perhaps existing for years before the symptoms indicating the closing years of the disease made their appearance, we had taken a step greatly in advance. Those about to enter upon some important undertaking would then first consult the physician to know whether they were in a condition likely to terminate fatally, or at least in a form of disease likely to cover an indefinite period. If we were in a condition at present to determine this introductory stage of the disease, by examining the urine, the pulse with regard to high blood-tension, the state of the heart, etc., it still required the greatest amount of skill and experience to determine whether or not these conditions were present in a given case. With regard to treatment, he said it was to Dr. Draper that we owed in this country the most intelligent and successful rules of diet for patients in a condition of suboxidation, and he would be glad to hear from him on that subject.

In closing the discussion, Dr. DRAPER said he would not have time this evening to give his ideas as to the dietetic treatment of gout. He would say, however, that they were not original; that they were suggested by reading a most remarkable and valuable book on pathology and therapeutics, by Dr. Bence Jones, many years ago. It was devoted to the subject of what he called diseases of suboxidation, and was an application, so to speak, of Liebig's views on gout and its allied disorders. The book took a somewhat strictly chemical view of disease, and was severely criticised, and is also at the present day, but is gaining ground. It illustrated the fact that the laws of vital chemistry were very analogous to those of inorganic chemistry. He could not answer Dr. Smith's question with regard to whether the gouty kidney was more common among gouty persons who lived a sedentary life than among gouty per-

sons who lived an active life. His own belief was that there were a great many gouty lesions, and that the vulnerability of different organs determined in a very large degree the point upon which the gouty tendency made its inroads. In some persons the joints were the vulnerable point, in others the mucous membrane, and in still others perhaps the arteries, etc. He would not use digitalis except in the latter stage, unless the case were complicated by lesion of the mitral valve. He preferred, however, morphine to digitalis as a cardiac stimulant in the latter stages of the disease. No remedy equalled morphine for the relief of the dyspnœa of granular kidney,—a dyspnœa the cause of which we as yet knew not.

The Academy adjourned.

GLEANINGS FROM EXCHANGES.

EXCISION OF CANCEROUS PYLORUS IN ENGLAND.—On April 5, at the Manchester Royal Infirmary, Mr. F. A. Southam removed the pylorus, along with nearly a third of the stomach, from a man aged 43, suffering from carcinoma of the parts which were taken away by operation. The patient had been under the care of Dr. James Ross for the relief of symptoms of pyloric obstruction. A hard and freely-movable mass could be felt through the abdominal walls; and operative measures were determined upon at Dr. Ross's suggestion. The operation was performed by Mr. Southam, with the assistance of Mr. Whitehead, antiseptically, after the method adopted by Professor Billroth. Thirty-nine silk ligatures were found necessary for uniting the duodenum to the stomach. The shock succeeding the operation, which lasted one hour and a half, appeared to be very slight, and for twelve hours the patient's condition was all that could be desired. No sickness ensued; the pulse was very fair; and the temperature did not fall below 97.6°. Towards evening the temperature rose gradually; and, fourteen hours after the conclusion of the operation, death occurred somewhat suddenly, apparently from collapse, but in reality, in the opinion of the operator, "as the result of that acute form of septicæmia, or rather septic intoxication, to which Dr. Marion Sims has directed attention, and which is, no doubt, the real cause of death in many cases of abdominal surgery, especially where no outlet is afforded for the discharges." The temperature just before death had risen to 102°. At the necropsy, the condition of the parts around the seat of operation was carefully examined, and tolerably firm adhesion was found to have already taken place between the cut surfaces of the stomach and the duodenum. There were six and a half ounces of blood-stained serum in the peritoneal cavity.—*British Medical Journal*, April 15.

ACONITE AND ACONITIA.—Dr. Wm. Murrell (in the *British Medical Journal* for April 15, 1882) calls attention to the great number of commercial forms of aconitia now in the hands of druggists. As usually supplied, at least, aconitia is not a simple substance, but a mixture of several alkaloids. English aconitia is said to be seventeen times as active as the German. According to Plügge, seven kinds of commercial aconitia with which he had experimented might be arranged in the following order of decreasing activity: 1, Petit; 2, Morson; 3, Hottot; 4, Hopkin and Williams; 5, Merck; 6, Schuchart; 7, Friedländer. This list is incomplete, as it does not contain Duquesnel's crystallized aconitia, which has been regarded as more active than any of the amorphous varieties. This should lead to caution in prescribing and dispensing aconitia, in order that no misunderstanding may arise or substitution occur.

MISCELLANY.

"It appears to be evident that the high-potency party have held sway too long. They represent a form of medical spiritualism which is unsound in theory and very prejudicial to the interests of true homœopathy. Notwithstanding this, they are holding prominent positions in all our medical colleges and societies, and at the same time are endorsing and advocating extravagant theories which are evidently subversive of the fundamental principles of homœopathy. They have held these positions so long that they have evidently come to the belief that they alone represent homœopathy, hence by right are privileged to dictate to the low-potency party regarding all matters involving homœopathic interests. They appear to be oblivious of, or at least ignore, the fact that this nondescript method of practice is repudiated by many of the best and wisest men in our school. They do not yet appear to comprehend the fact that the recognition and advocacy of the false theory of dynamization *must cease*, because it is the embodiment of error, and, from the homœopathic point of view, of error only."—*New York Medical Times (Homœopathic)*.

In such round terms the simple-hearted and primitive disciples of Hahnemann are berated by their more progressive brethren of the same school. They deny flatly the doctrines of their fathers, and call them "nondescript," "false," etc. Does not this look a little like persecution? and will it not be well, now that we are acting in the character of peace-makers, for the State Medical Society to attempt to bring about a reconciliation between these opposing schools, the death of both of which we have of late piously compassed? We have taken them both to our bosom; and if, instead of nestling there until they are quietly suffocated, they fall to fighting, is there not danger that they will

thrive by their dissensions and become more muscular and venomous? It may be a question to whom the trade-mark "homœopathist" belongs, if indeed it belongs to either; but so long as we are holding them in our affectionate embrace we must not allow them to frustrate our pious intentions by contending with each other, which, according to our State Medical Society, is the food of martyrs.—*New York Medical Gazette*.

RESIGNATION OF THE POST-GRADUATE FACULTY OF THE UNIVERSITY OF NEW YORK.—Owing to unfair treatment and a general want of appreciation by the regular Faculty and Board of Trustees, Drs. D. B. St. John Roosa (Professor of Ophthalmology), William A. Hammond (Diseases of Mind and Nervous System), Stephen Smith (Orthopædic Surgery), J. W. S. Gouley (Diseases of Genito-Urinary Organs), Montrose A. Pallen (Gynecology), H. G. Piffard (Dermatology), James L. Little (Clinical Professor of Surgery), and F. R. Sturgis (Clinical Professor of Venereal Diseases), have resigned from the Post-Graduate Faculty of the Medical Department of the University of the City of New York. Dr. A. E. Macdonald, Professor of Medical Jurisprudence, is the only one remaining of the Post-Graduate Faculty, and will probably retain his connection with the University.

It is said that this action foreshadows the institution of a new college in New York especially devoted to post-graduate instruction.

DIPHTHERIA IN CALVES COMMUNICATED TO PIGS.—Mr. Cole, a veterinary surgeon of Hinckley, in Australia, has published the following illustration of the way in which diphtheria may be communicated from one of the domestic animals to another of a different species, thus indicating special sources from which the human disease may at times be contracted.

A calf, about five months old, was found to be dying with some symptoms of a throat disorder, and instructions were given to have the body buried, which through some neglect was not done immediately, so that a sow which managed to get access to the enclosure attacked the diseased meat and ate some of it. This circumstance came to be known when, a few days later, some of the pigs were taken down with throat disease. Eventually the sow and her young pigs were also victims. The latter died within twenty-four hours, while the others, including a boar, recovered entirely. Apropos of this outbreak among domestic animals, an account is given of an epidemic that occurred in the Oakleigh police station, the disease being, on this occasion, traced to a diseased cow, whose milk had been used by the inmates of the station.—*New York Medical Record*; from *Australian Veterinary Journal*, February, 1882.

OPENING OF A NEW HOSPITAL AT ASHLAND.—By act of Assembly, approved June 11, 1879, authority was conferred for the

erection of a Miners' Hospital in the coal regions of Pennsylvania, at Ashland. The building having been completed, it was formally transferred to the trustees by Governor Hoyt, with appropriate ceremonies, on the 21st of April, 1882. The hospital is in the shape of a Roman cross, the central portion being two stories high and having a front of eighty-seven feet. This portion of the building is surmounted by a spire one hundred and seven feet high. One-story wings on each side extend one hundred and forty-two feet: they are forty-two feet wide. There is a basement, permitting a continuous passage below the wards and centre building. Great attention has been paid to ventilation and to efficiency of administration. Dr. George Yeoman has been appointed resident physician.

In a recent article in the London *Lancet* Dr. Stephen Mackenzie endorses the treatment of chronic dysentery by means of voluminous injections of one-half a drachm to a drachm of nitrate of silver, as originated by Dr. H. C. Wood.

The fourteen Jewish pharmacists in St. Petersburg, and all Jewish pharmaceutical assistants, have been notified by the Minister of the Interior that they will no longer be allowed to follow their calling, and must within a year dispose of their business to some one not Jewish.

OIL OF TURPENTINE AS A DISINFECTANT.—Turpentine water (made by shaking up water with old oil of turpentine), on account of its ozonizing properties, is considered as a valuable disinfectant and antiseptic. This was pointed out by Schönbein, in 1858, who demonstrated that the water thus prepared contained peroxide of hydrogen. Radunowitsch, in a communication to the Russian Chemical Society, in 1873, reported a number of experiments made by him, and recommended this solution for use in hospitals, especially for gangrenous wounds.—*Scientific American*, April 8.

NOTES AND QUERIES.

THE Secretary of the Surgical Section of the American Medical Association has the following progress to report in regard to papers for the next meeting: Prof. A. C. Post, "Lupus Exedens of Face;" Dr. J. R. Weist, "Elastic Tension in the Management of Cases of Delayed Separation of Ligature;" Dr. Henry A. Martin, "Advances in Conservative Surgery of the Joints;" Dr. Carl Seiler, "Some Remarks upon Electricity in Surgery;" Dr. W. M. Fuqua, "Subperitoneal Surgery;" Dr. A. Van Derveer, "Cleft of Hard Palate;" Dr. Oscar J. Corkery, "Modification of Plaster Splint;" Dr. C. W. Nesbitt, "Ununited Fracture of Femur treated by Exercise;" Dr. John E. Link, "Alcohol as an Anæsthetic;" Dr. William Hill, "Laparotomy;" Dr. Ephraim Cutter, "Bi-Fracture of Patella—Partial Bony Union after Eight Years;" Dr. William Stewart, "Fracture of Elbow-Joint." Drs. J. W. Dora, J. H. Warren, Henry O. Marcy, Edward Borck, and B. H. Riggs promise papers; titles not received. The Secretary, owing to the death of the chairman, will read a paper on "Excision of Portions of the Alimentary Canal covered with Peritoneum," as the address on Surgery. Gentlemen wishing to read papers will please notify the Secretary of the Section, William A. Byrd, M.D., 407 Jersey Street, Quincy, Illinois.

DR. BOENNING'S CASE OF "PRURIGO."

EDITOR PHILADELPHIA MEDICAL TIMES:

SIR,—Dr. Boenning can hardly ask us to accept his case reported in the *Times* of May 6 as one of prurigo, without more convincing evidence than he has as yet offered.

In the first place, prurigo is so rare a disease in this country that out of more than sixty thousand cases of skin disease reported by competent dermatologists—almost all graduates of the Vienna school, and therefore familiar with the affection as it occurs abroad—but two cases of prurigo have been placed upon record.

Secondly, the appearances as described by Dr. Boenning are precisely such as are found in chronic papular eczema, one of the commonest skin diseases, and a thousand times more likely to be met with than prurigo. (I am surprised, by the by, that, while excluding pediculosis and pruritus, Dr. Boenning did not give his reasons for excluding papular eczema.)

Thirdly, the rapidity and completeness of the cure are contrary to what we know of the character of prurigo. Hebra says flatly, "it is incurable."

I may add that I had under my care at the Dispensary for Skin Diseases, in the autumn of 1877, a boy named Joel B., of the age which Dr. Boenning's patient must have been at that time, and presenting, as my notes show, a somewhat similar skin manifestation. The case was recorded by me as "undoubtedly eczema."

I do not say that my patient and Dr. Boenning's were the same individual, nor do I assert that his case was not one of prurigo: I simply say that the notes of the case as published point to eczema rather than to any other affection.

I have not the pleasure of knowing Dr. Boenning personally, and I trust he will not take amiss what has been to me the very disagreeable duty of criticising his interesting clinical report. It is to the interest of dermatology and of scientific medicine generally that no new-comer in the shape of a new disease, or a new case of a rare disease, should be admitted to fellowship without showing its credentials and making good its footing.

ARTHUR VAN HARLINGEN, M.D.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM APRIL 30 TO MAY 13, 1882.

KING, WILLIAM S., COLONEL AND SURGEON.—The extension of his leave of absence on account of sickness, granted him in S. O. 251, November 7, 1881, from A. G. O., still further extended six months on account of sickness. S. O. 104, A. G. O., May 5, 1882.

WILLIAMS, JOHN W., MAJOR AND SURGEON.—Granted leave of absence for six months. S. O. 101, A. G. O., May 2, 1882.

CLEARY, P. J. A., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence on surgeon's certificate of disability, granted him in S. O. 224, October 4, 1881, from A. G. O., is extended six months on account of sickness. S. O. 107, A. G. O., May 9, 1882.

COWDREY, S. G., CAPTAIN AND ASSISTANT-SURGEON.—Now awaiting orders, to report to Commanding General, Department of the East, for assignment to duty at Fort Monroe, Va. S. O. 103, A. G. O., May 4, 1882.

HOFF, J. V. R., CAPTAIN AND ASSISTANT-SURGEON.—To be relieved from duty in Department of the East, and report in person to Commanding General, Department of California, for assignment to duty. S. O. 103, c. s., A. G. O.

HALL, W. R., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort Bliss, Texas. S. O. 95, Department of the Missouri, May 8, 1882.

PORTER, JOSEPH Y., CAPTAIN AND ASSISTANT-SURGEON.—The extension of his leave of absence, granted him in S. O. 17, c. s., Military Division of the Atlantic, is further extended twenty days. S. O. 99, A. G. O., April 29, 1882.

CARTER, E. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To be relieved from duty in Department of California, and report in person to Commanding General, Department of Arizona, for assignment to duty. S. O. 103, c. s., A. G. O.

RAYMOND, H. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To be relieved from duty in Department of California, and report in person to Commanding General, Department of Arizona, for assignment to duty. S. O. 103, c. s., A. G. O.

PHILADELPHIA, JUNE 3, 1882.

ORIGINAL COMMUNICATIONS.

AURAL VERTIGO.

*Read before the Philadelphia County Medical Society,
February 8, 1882,*

BY CHARLES H. BURNETT, A.M., M.D.,
Aural Surgeon, Presbyterian Hospital.

AURAL or auditory vertigo, as its name would indicate, is a vertiginous condition due to an irritation of the auditory apparatus. This irritation, usually in the form of pressure, may be situated either in the external, the middle, or the internal ear, or in or upon the auditory nerve, within the cranial cavity. Though originating in the different parts of the organ of hearing, this irritation, in order to produce vertigo, must be exerted ultimately in the form of pressure upon the terminal filaments of the auditory nerve in the semicircular canals, and thence conveyed to the cerebellum, as will be shown hereafter. Some observers hold that all disturbances in equilibration, as manifested in giddiness, are due either to a temporary or a permanent lesion in the labyrinth. In fact, some hold that the semicircular canals are vertiginous centres. While I am not prepared to accept this theory, it is plain to my mind that in the semicircular canals there is found a very sensitive medium of communication of impressions to the cerebellum, and hence that these canals may be considered as in many respects presiding over the equilibrium of the body. Although many instances of vertigo can be shown, in my opinion, to be due to irritation of these canals, by virtue of the vasomotor connection between them and remote parts of the body, it is my object to limit the scope of this paper to a consideration of vertigo arising from irritation in the various parts of the auditory apparatus, and communicated to the semicircular canals, and thence to the cerebellum. The whole matter of aural vertigo will be most easily understood by a consideration, first, of the structure and distribution of the auditory nerve.

Structure of the Auditory Nerve.—Mons. M. Duval has shown* that a portion of the fibres of origin of the auditory nerve are

closely connected with a mass of motor cells in the bulb, and that these fibres pass into, and are continued in, the inferior peduncles of the cerebellum. The inferior peduncles of the cerebellum connect it with the medulla oblongata, pass on downwards to the back of the medulla, forming part of the restiform bodies, and are then connected below with the corresponding half of the cord, excepting the posterior median columns.

It is well known that injuries of these peduncles cause disturbances in motion similar to those observed after lesions of the semicircular canals. It seems, therefore, that there is a sort of special function resident in these canals, that exaltation of their function evokes peculiar movements of the head and mediately of the trunk and limbs, and that the anatomical explanation of this is found in their cerebellar connection; and it further appears that there are two kinds of fibres in the auditory nerve,—viz., the motor fibres, distributed to the ampullæ of the semicircular canals and connected with the bulb and the inferior peduncles of the brain, and another set distributed to the utricle, the saccule, and the cochlea, which are accepted as purely sensory. It is to the motor set of fibres in the acoustic nerve that our attention must be directed in considering the subject of this paper.

The question naturally arises, are not these inferior peduncles wounded in experiments on the semicircular canals? My reply is that in the pigeon, used for these sacrifices, the semicircular canals stand away from surrounding tissues in the cranium, as the cochlea does in the bulla of the guinea-pig, so that mutilation of any parts but the semicircular canals is avoided. That the phenomena attributed to mutilation of the *semicircular canals* in these experiments are justified seems further confirmed by recent experiments by Gellé, of Paris, upon the *cochlea* alone, by which he shows that in the guinea-pig mutilation and extirpation of the cochlea, easily accomplished in this animal without opening the true cranial cavity, is unattended by the slightest disturbance in equilibration.

It must be further borne in mind that the auditory nerve originates from numerous white striæ—the *lineæ transversæ*—which emerge from the floor of the fourth ventricle, and that it is also connected with

* Gellé, De l'Oreille, etc., p. 323. Paris, 1882.

the gray matter of the medulla. Now, the fibres of the pneumogastric nerve may be traced deeply through the fasciculi of the medulla, to terminate in a gray nucleus near the floor of the fourth ventricle: so that anatomically the auditory nerve and the pneumogastric are thus shown to be at least contiguous at their origin,—a fact entirely satisfactory in the “overflow” theory, as will be shown.

As has been said already, authors speak of a “vertiginous centre,”* and of vertigo as “undoubtedly a sensation.” The latter may be evoked by an overflow of nerve-impulse from some one centre of the encephalon to the so-called vertiginous centre; and, from what we know of the physiology of the semicircular canals, we may assume that the central termination of the ampullar nerves is in a very close connection with a spot in the brain, irritation of which will produce the sensation of giddiness. This, as we now know through the labors of Duval, is in the cerebellum, and owes its great influence most probably to its connection, by means of its inferior peduncles, with the spinal cord.

To this connection we owe the greater or less impulse conveyed over the portion of the auditory nerve supplying the semicircular canals in every turn of the head or movement of the body. When this impulse is slight, or let us say normal, it does not produce vertigo, but informs us, or aids in the information, of our position in space. Thus there is established the so-called “sense of equilibrium.” The disturbance of this sense constitutes vertigo.

If such an “overflow” of irritation can take place between the central termination of the ampullar nerves—*i.e.*, the nerves of the semicircular canals—and the vertiginous centre in the cerebellum, it is fair to assume that a similar “overflow” may take place between this ampullar centre and the pneumogastric centre, simply because the two latter are more contiguous to each other than the ampullar centre and the vertiginous centre in the cerebellum. In this contiguity an easy explanation is found of the nausea, vomiting, pallor and faintness, the slow breathing and weak pulse, which occur in aural vertigo; for we are entitled to assume that the irritation in the auditory apparatus and auditory

nerve centre overflows to the respiratory, the cardiac, and the vomiting centre.

Anatomical Causes of Tinnitus Aurium.

—As tinnitus aurium is almost a constant attendant upon vertigo from any cause, but especially attendant upon auditory vertigo, it is necessary in this paper to consider briefly its probable anatomical cause. It should be borne in mind that great error has crept into our diagnoses through considering tinnitus aurium a subjective sensation. Although this originates in the subject, tinnitus aurium, of all qualities, should not be considered a truly subjective sound, any more than we should regard the heart-sounds or aneurismal murmurs as purely subjective. Tinnitus aurium is best understood by being regarded as a truly objective sound; for it will be found upon reflection to be due to the perception by the auditory nerve of the circulation of the blood in the organ of hearing, and not in the nerve itself. The terminal expansion of the auditory nerve—not the nerve-trunk—responds *only* to the stimulus of sound: so that if there is hearing there must be sound; just as the retina, and not the optic-nerve trunk, perceives light, so that if there is a perception of light it must be through a terminal expansion of the nerve of sight impressed by light. Hence, excepting perhaps in some rare cases of cerebral disorder, where statements of the subjects are not highly reliable, there is no such thing as subjective sight or hearing. If there is said to be hearing, there must be sound; so that tinnitus aurium is the hearing on the part of the ear of the sound or sounds which are produced by the movement of the blood in the various parts of the ear. This sound may be due either to an increase in the flow of blood through these vessels, and the consequent vibrations produced thereby, or to a *retention* of sound-waves produced by the ordinary circulation of blood through the organ of hearing.

The normal flow of blood through the vessels in or very near the ear is not heard because the sound-waves caused by the movements of the blood in these vessels flow outward through the drum-cavity, the membrana tympani, and the auditory canal, and are lost to our senses; but stop the external meatus, even for a few seconds, with the finger, and these sound-waves are thrown back into the ear, the resonance of the organ is altered, and a murmur is

* P. McBride, of Edinburgh, *Medical Times and Gazette*, vol. i., 1881; also J. A. Irwin, M. A. Cantab., M. D. Edin., *Pathology of Sea-Sickness*, *Lancet*, November 25, 1881. An article of intense interest and great value.

heard. Thus we can at will produce a tinnitus aurium, and to a great extent comprehend that tinnitus aurium in general is due to the hearing of obstructed, retained, and reflected waves of sound originating in or near the ear. In fact, in tinnitus aurium we have the murmur, of course in varied pitches and intensities, produced by minute vibrations in the walls of arterioles and veinlets in or near the ear, through which blood is flowing and setting up vibrations, just as we hear an aneurismal murmur which is evoked in a similar way.* Hence it is that it can be asserted that tinnitus aurium is really an objective sound, made in and heard by the ear, and is to be explained on purely physical grounds.†

Symptoms.—The symptoms of aural vertigo may be briefly stated as follows. The patient more or less suddenly experiences in one or both ears tinnitus, and more or less hardness of hearing. This is quickly followed by a dizziness passing rapidly into a pronounced vertigo, with reeling and falling, accompanied by nausea, vomiting, and faintness, but rarely with loss of consciousness. When the latter ensues, it is simply complete syncope from the nausea and vomiting. Usually the patient almost instinctively associates his vertigo and attendant malaise with derangement in the ear, which may or may not have been previously diseased. These symptoms, which are here given in the order of their onset and sequence, are subject to modifications according to the part of the ear affected. Thus, when the irritation is in the *external ear*, neither the tinnitus nor the deafness may be excessive; but both are permanent from the onset to the cure, and the tinnitus is acoustically of the uninterrupted quality. When the irritation lies in the *middle ear*, the symptoms are likely to be paroxysmal, as though the physical conditions upon which the altered and morbid pressure or tension depends varied with the state of the atmosphere or with the health of the patient. In cases dependent upon irritation in the external ear or labyrinth, all the symptoms are usually more pronounced, though the

attacks of tinnitus and dizziness are paroxysmal, while the deafness is most profound and permanent, whether it comes on suddenly with the first attack of vertigo or not. The latter passes off, but the deafness remains.

Vertigo dependent upon disease like a tumor in or upon the auditory nerve, and which may be denominated a central form of auditory vertigo, is usually not paroxysmal, the patient experiencing a constant and increasing tendency to alterations in gait, with a disposition to fall towards the affected side in walking. Here the permanency of the symptoms should lead us to suspect disease in the cranial cavity.

Differential Diagnosis.—All the forms of aural vertigo are not only confounded in diagnosis with each other,—and in some cases there may be a commingling of two forms in the same subject,—but they are constantly mistaken for stomachic vertigo, so-called biliousness, epilepsy, and even apoplexy. The confusion among the various forms is hardly to be wondered at, but the aural symptoms and the usually retained consciousness should make the differential diagnosis between this disease and others just mentioned very easy. Then, too, the absence of spasm and the marked pallor in the patient should lead away from the diagnosis of either fits or apoplexy. This defective diagnosis has led to a faulty nomenclature, so that the term *Ménière's disease*, which, if it means anything, means a disease of the semicircular canals only,—i.e., a disease of the internal ear,—has been very erroneously used to designate aural vertigo in general, instead of being limited to the form of aural vertigo dependent upon disease in the aforesaid canals. That this term "*Ménière's disease*" should be thus restricted will, I think, be plain to you after a closer examination of all the forms of aural vertigo, of which *Ménière's disease* is clearly only one. Your attention is therefore asked *first* to that form of aural vertigo due to irritation in the *external ear*. This may be considered the simplest form of the disease, so far as concerns its production and cure; but the mode of its action is the same as in other and graver forms; i.e., the pressure and irritation are at last conveyed to the cerebellum, and then the vertigo is evoked.

Illustration.—Doubtless all are familiar with the celebrated case of external ear-vertigo and other reflex phenomena associ-

* The pitch of the note of tinnitus aurium is usually high, such as is to be expected from the rapid vibration of a short wire or string. The note is, in fact, produced by the vibrations of the walls of minute arterioles and veinlets,—vibrations as numerous as sixty thousand per second. The deeper or lower cooling sounds are produced most probably by vibrations in the larger walls of the carotid artery or jugular vein.

† To Dr. Samuel Theobald, of Baltimore, the profession owes the earliest explanation of the real causes of tinnitus aurium, in a paper published in 1875.

ated with it, recorded by Fabricius Hildanus. In this instance a young girl 18 years old is said to have exhibited, besides the ear-vertigo, atrophy of one arm, epileptiform symptoms, and even anæsthesia of one-half of the body, all of which were cured by the removal of a glass bead or ball from the external auditory canal, where it had lain for eight years. This case is not only classical but highly instructive, but in this latter feature no more so than numerous cases of tinnitus aurium, vertigo, and nausea due to the presence of foreign bodies as simple as masses of hardened ear-wax in the auditory canal, and occurring in the experience of many of us. Vertigo due to irritation in, or applied to, the external ear and outer surface of the drum-head is also constantly seen in syringing the ear, sometimes when done ever so gently. Here the mode of irritation in most cases is by pressure upon the drum-head, and mediately by means of the ossicles and the labyrinth-water upon the filaments of the auditory nerve in the ampullæ of the semicircular canals, the anatomical reasons for which have already been presented.

The giddiness, however, induced by suddenly injecting cold water into the external auditory canal cannot be altogether explained by the pressure it exerts on the drum-head and mediately upon the ossicles of hearing, the labyrinth-water, and the cerebellar branches of the auditory nerve found in the ampullæ of the semicircular canals. Here an explanation must be sought for in the nervous connection between the external ear, the seat of the irritation, and the vertebral artery which supplies the circulation in the labyrinth. We must bear in mind that the effect of irritation in a vaso-motor nerve-tract is to excite vessel-dilatation in a correlated area through diminished inhibitory nerve power. In this instance the irritation is the sudden presence of cold water in the external auditory canal, the diminished inhibitory nerve power is felt in the vertebral plexus, and the correlated area is the labyrinth and especially the semicircular canals. The morbid impression caused by the cold water is conveyed by the auricular branch of the pneumogastric nerve, found in this part of the ear, to the *inferior cervical ganglion*, to which the vagus sends a branch. From this ganglion the irritation is deflected to the vertebral plexus, into the formation of

which, fibres from this lower cervical ganglion enter largely; the inhibitory power of the plexus is overcome, and vessel-dilatation ensues in the vertebral artery. This causes an increase in the blood-supply to the labyrinth, and the latter is in a measure engorged, and the labyrinth-water, having no adequate means of rapid escape, is compressed within its bony cavity. This compression is of course quickly felt by the nerve-filaments in the ampullæ of the semicircular canals, they are compromised, and vertigo ensues, for anatomical reasons already given.

Thus it is shown that external ear-vertigo is produced in two ways,—viz., either mechanically by direct pressure on the drum-head and the chain of ossicles, or reflexively through the nervous system.

Middle Ear-Vertigo.—When we come to consider aural vertigo caused by disease in the middle ear, we approach a much more complicated subject. Here the pressure and consequent mechanical irritation may be conveyed in various ways to the labyrinth-water and the terminal filaments of the auditory nerve in the semicircular canals, and thence by the motor fibres to the cerebellum. The most frequent mode of irritative pressure is exerted by an accumulation of fluid, mucus, pus, or serum in the tympanic cavity. The pressure is conveyed through the foot-plate of the stirrup-bone or through the membrane of the round window, or through both, to the labyrinth-water, and through the latter fluid to the auditory nerve, which, as I have stated, contains motor filaments, and thus to the cerebellum. In fact, this process of conduction of irritation is but an exaggeration of the mode of the mechanism of hearing; and we can very easily understand how a great noise, or any noise at times, may produce dizziness and other cerebral disturbance.

Again, morbid pressure may be exerted from the middle ear to the deeper parts of the auditory apparatus concerned in the production of ear-vertigo by closure of the Eustachian tube in throat and nose disease.

After this closure of the tube, the air shut in the tympanic cavity is soon absorbed, a vacuum is then formed in the drum-cavity, and the external air presses the membrana tympani inward, carrying with it the malleus and the rest of the chain of bonelets. Thus the labyrinth-water is unduly compressed, and, as in the previous case,

the auditory filaments in the semicircular canals are also compressed and the cerebellum irritated. In some rare instances there seems to be reason to suppose that a tonic contraction of the tensor tympani muscle occurs,* and that retraction of the membrana tympani and the chain of ossicles ensues. In this way the foot-plate of the stapes is forced inward through the oval window upon the labyrinth-water, and cerebellar irritation is produced, as heretofore sketched. The attacks of aural vertigo of this latter form are paroxysmal, and are accompanied by so-called "variable hearing,"† the hearing growing worse as the tinnitus, which is in fact the prodrome, increases, and finally ushers in the vertigo. In fact, any undue loading of one or of all of the ossicles, or any abnormal pressure upon them, or even excessive swelling of the mucous membrane covering them, by forcing them inward, or by carrying only the stirrup abnormally inward, would tend to compress unduly the labyrinth-water, especially if at the same time the swelling of the mucous membrane extends to the round window and prevents the compensating yielding of its membrane to the inward pressure of the stirrup. In this way the vertigo so often present in acute otitis media may be explained.

Middle ear-vertigo from *chronic* disease in the tympanum is very common, according to the observation of the writer. This source of vertigo is to be expected when we reflect that there is a direct communication between the circulation of blood in the middle ear and that in the labyrinth. Politzer has shown that the capillary blood-vessels of the tympanum pass directly through the inner or labyrinth wall of the tympanic cavity to the vestibule and other parts of the internal ear. Hence it is easily seen how disturbed circulation, which must ensue in chronic disease in the walls of the tympanic cavity, may be felt in the internal ear; and as disturbances in circulation, by altering the pressure in the labyrinth, especially in the semicircular canals, produce vertigo, it can be shown how chronic middle ear-disease may induce aural vertigo.

In middle ear-vertigo it may also be assumed that the pressure in the labyrinth

may at times be brought about by altered circulation due to reflex influences, as was shown in external ear-vertigo. The path of the irritation in this case, however, lies probably between the vertebral artery, the vertebral plexus, and the inferior cervical ganglion on one side, and the otic ganglion on the other.‡

Internal Ear-Vertigo.—In considering ear-vertigo due to disease in the internal ear, we approach at once the most difficult and the most interesting form of the disease under consideration. It may be produced by disease in the auditory nerve or in any part of the labyrinth except the cochlea. From recent experiments of Gellé, of Paris, it is conclusively shown that laceration and destruction of the cochlea in mammals (especially in rodents) has no effect whatever upon equilibration. This throws us all the more forcibly back upon the semicircular canals as the very highly probable seat of the organ of equilibration.

Up to this point we have considered the effect on these canals of irritation originating elsewhere and communicated to them. Now we shall consider the phenomena of disturbed equilibration due to disease arising *in* them and the irritation it conveys to the cerebellum; and under this head we shall also consider the phenomena of disturbed equilibration due to irritation in or upon the auditory nerve before it reaches the labyrinth, as we sometimes find in tumors, either in the nerve or lying upon it. The phenomena in the latter case appear to me to be confirmatory of the existence of intimate connection between the auditory nerve-fibres and the cerebellum by means of the inferior peduncles of the latter.

History.—Let me bring to your minds the fact that the experiments of Flourens in 1817 first drew attention to the probability that a lesion of the semicircular canals would produce peculiar disturbances in equilibrium of the head and of the body. Subsequently these experiments were repeated, with more or less correspondence and confirmation, by Harless, Czermak, Brown-Séquard, Vulpian, and Goltz. In 1836 Deleau described very thoroughly a disease of the ear closely resembling that

* See article on "Variable Hearing," by the writer, in report of Section of Otology, International Medical Congress, Philadelphia, 1876.

† The late Mr. James Hinton, of London, in "Questions of Aural Surgery."

‡ The *tympanic nerve* communicates with the *small petrosal*, a branch from the otic ganglion. The otic ganglion communicates with the superior cervical ganglion, and this with the middle cervical ganglion, if present; if not, with the inferior cervical ganglion. The inferior cervical ganglion supplies largely the vertebral plexus, regulating the supply of blood in the labyrinth.

which later was called Ménière's disease. It might just as well have been called Deleau's disease. In 1860 Ménière the elder observed peculiar disturbances in equilibration and motion in a young woman, who also at the same time presented peculiar aural symptoms, prominent among which were tinnitus aurium and deafness. The girl dying suddenly from other causes while manifesting these peculiar aural cerebral symptoms, Ménière examined the internal ear, and thought he found peculiar pathological changes of an apoplectiform nature in the semicircular canals. Although the account of this investigation is extremely meagre and unsatisfactory, it excited so much interest at the time it was made as to lead to the application of the term "Ménière's disease" to every form of aural vertigo,—a most confusing and unjust nomenclature. But these examinations of Ménière served a good purpose in recalling the attention of physiologists to these canals in the labyrinth of the ear, and to lead to further examination into their functions. So that, with the experiments of Boettcher, of Dorpat, in 1872-73, it may be said a new and much more scientific era dawned upon the investigation of the functions of the semicircular canals. But this subject would of itself furnish material for a lengthy paper. It must therefore suffice to say that Boettcher set an example of extremely careful examination and manipulation in his experiments, which was followed by Bloch, Cyon, Mach, Berthold, Breuer, Curschmann, Löwenberg, and Berhardt, and, within a year, by Gellé, of Paris, and to some extent by Baginsky, of Berlin.* These experiments have been in every way brilliant, and from them there is every reason to draw the conclusion that in that part of the ear so long a puzzle to physiologists—viz., the semicircular canals—there resides a "sense of equilibration" which owes its power to its connection by means of the auditory nerve with the cerebellum. The anatomist, working from the brain and its structure, has met the experimental physiologist at the semicircular canals, and to their united labors

science owes the important accumulation of facts on this subject now at her command.

Clinical History and Symptoms.—In internal ear-vertigo, the ear having been previously healthy or considered so, the patient is suddenly attacked by tinnitus, vertigo, nausea, reeling, and falling, but his consciousness is retained. After these symptoms abate and the alarm of the patient subsides, the hearing is discovered to be gone in the affected ear. This form of ear-vertigo the writer has seen in adults of various ages, usually in men over thirty, and in all grades and avocations,—in the hard-worked physician as well as in the overworked mechanic. Upon examination, the drum-head will present no great change, or it will look like one belonging to an ear previously the seat of chronic catarrh; and generally, upon close inquiry, it will be elicited that there is history of exposure, in camp or in daily labor, to inclement weather, and that the ear now attacked so severely has already at times felt stuffed and deaf, but that it got better and was a good and serviceable organ. The general health will be found to have recently failed, or to have been greatly taxed by some sudden stress of work, and it will also be found that the ear has "buzzed a little of late," but not constantly, and that this had been forgotten, until the attack of ear-vertigo brought it back to the memory. The hearing will be found to be profoundly impaired and to remain so, while the tinnitus may or may not remain, and the vertigo will be found to have temporarily vanished. Sometimes, with care and proper management, no further attacks of vertigo are felt; but the hearing remains permanently affected. On the other hand, the tinnitus may be always present to some extent, may increase suddenly at times, and form, as it were, a forerunner of subsequent attacks of vertigo.

As I have rarely seen a case of internal ear-vertigo without conclusive evidence of a previous chronic catarrhal disease in the middle ear, with necessarily great changes in nutrition and circulation, and as it is well known as fully established that the circulation between the middle and internal ears is most closely connected, therefore I am forced to conclude that internal ear-vertigo, or what Hinton, of London, used to call "labyrinthine vertigo," is usually preceded by pathological changes in the

* It seems to the writer that the experiments of Baginsky have been conducted deliberately with great violence, and with a view of producing a rupture of the membrane of the round window and meningitis. Hence they cannot be adduced to prove that a less violent irritation of the semicircular canals will not produce vertigo, nor do they prove anything against the supposition that a sense of equilibrium resides in the semicircular canals. There is more in favor of this view than the experiments of one man can overthrow.

circulation of the middle ear, which induce changes in the vessels of the internal ear, culminating in the sudden and grand attack I have sketched. Whether these changes and their results are of an apoplectic nature cannot be discussed here.

The diagnosis, however, will be aided by the suddenness of the tinnitus, vertigo, and deafness, and especially by the fact that the tinnitus and vertigo are more or less evanescent, while the deafness is profound and permanent from the first. This form of aural vertigo, and no other, may justly be termed "Ménière's disease."

Central Ear-Vertigo.—There is a form of ear-vertigo which is due to a tumor of the auditory nerve.* This nerve, according to Virchow, is more frequently the seat of morbid growths than any other cerebral nerve. When the vertiginous symptoms dependent on the presence of these tumors, usually fibrous or sarcomatous in nature, first show themselves, it is not easy to distinguish between this form of ear-vertigo and that due to chronic changes in the middle and internal ear combined. There are, however, some points of difference so constant in their occurrence as to constitute truly pathognomonic symptoms. To begin with, central ear-vertigo dependent upon morbid growths in the auditory nerve is never sudden, but slow in its onset. The deafness and tinnitus, as well as the vertigo, are comparatively slight at first, but then steadily increase, and are always permanent from the time they first show themselves until the end. The gait is permanently altered, though it may be only slightly changed at first, and the tendency is to fall towards the affected side. Not so, however, in true internal ear-vertigo, in which the initial lesion is in the labyrinth in or very near the semicircular canals. In this the deafness is sudden, profound, and permanent, but the giddiness and falling are paroxysmal. In middle ear-vertigo, in which the deafness and tinnitus are great, the deafness is not sudden or profound, the vertigo comes in attacks, and there is no permanent alteration in gait.

Treatment of Aural Vertigo.—If it has been shown that aural vertigo is due to

pressure in some form, either directly or mediately, upon the auditory nerve, and reflexly thence to the cerebellum, the indication in treating such cases is to remove, or at least diminish, this pressure; and this can be done surgically or medicinally. Let me say here that great confusion arises when these cases of aural vertigo are treated as cases of biliousness,—a much too frequent error. If the irritative pressure is due to a foreign substance of any kind in the auditory canal, it is to be relieved by the removal of the foreign substance, best accomplished by syringing with warm water.

If the irritation is due to pressure from matter accumulated and retained in the drum-cavity, it must be allayed by removal of the retained mass. This can be accomplished by paracentesis of the drum-head, by inflation of the tympanic cavity with Politzer's air-bag, or by catheterization. Even when matter is inspissated in the drum-cavity, one or all of these methods combined must effect its removal. The ossicles are thus allowed to swing freely, the stirrup comes back to its normal position, the membrane of the round window is relieved, and the pressure is taken from the labyrinth-water and the ampullar nerves in the semicircular canals.

If the pressure is due to a vacuum in the drum-cavity, and a consequent indrawing of the drum-head and the ossicles from closure of the Eustachian tube at its faucial end, the introduction of air by one or both of the above means will usually restore the drum-head to its proper place and unlock the pressed-in chain of bonelets, thus relieving the compression in the labyrinth and semicircular canals.

In cases of tonic spasm of the tensor tympani muscle, the attacks may be relieved by inflation of the drum-cavity, which forces outward the drum-membrane and the malleus and antagonizes the indrawing effects of the spasm in the tensor muscle. The disease in this form is also to be combated by antispasmodics, preferably bromide of potash in large and frequent doses, as much as ten to fifteen grains every fifteen minutes being given, with most excellent effect, as the attacks are coming on, or when on, as I have had occasion to test.

When the vertigo is due to chronic aural catarrh,—*i.e.*, chronic change in the mucous membrane of the middle ear,—the

* By the aid of Dr. Morris Longstreth, I have shown in my "Treatise on the Ear" (p. 581) that tumors of the trunk of the auditory nerve may invade the labyrinth and destroy the auditory nerve-filaments contained therein, as observed by us in a case of tumor of each auditory nerve in a woman 45 years old.

field of treatment becomes indeed a wide one. The catarrh of the mucous membrane of fauces, naso-pharynx, and nares will usually require treatment, as well as the mucous membrane of the cavity of the drum; but in these cases the greatest benefit may accrue from the use of tonics and bromide of potash as above advised.

The morbid circulation which no eye can see, but which surely underlies these cases, may be connected with anæmia or plethora, and the diagnostician must bear this in mind in the treatment of the case. Local treatment in the external auditory canal will usually increase the dizziness by overloading, physically, the membrana tympani. Blisters, leeches, etc., about the external ear and mastoid portion of the temporal bone are useless: they may be so bothersome as to increase the malady.

Rest in bed is absolutely essential when the vertigo is frequent and severe. It is always a relief during an access of dizziness. The vertiginous centre may be said thus to recover itself, and the immediate attack is found to pass off more quickly than if the patient continues to walk about, while the liability to subsequent attacks is diminished. This is not the case, however, if the vertigo is constant and apparently due to a cerebral tumor in or about the auditory nerve or labyrinth.

Respecting the treatment of internal ear-vertigo, it may be said that a typical case of this form of the disease presents deafness which is irremediable. The attacks of tinnitus and dizziness may be lessened in number by attention to the general health, preference among drugs being given to quinia, strychnia, and iron, separate or combined. For immediate relief of the tinnitus nothing has been found by the writer equal to bromide of potash, and, in fact, no remedy is equal to this in relieving tinnitus generally.

Finally, the tinnitus and dizziness may cease, never to be felt again, but the deafness remains, being probably due to an organization of an exudation or extravasation thrown into the labyrinth at the time of the first grand attack. But, unfortunately, the pathological processes in such cases are not well known, as the researches have been meagre. If the case is seen at the beginning of the disease, and there is reason to surmise the existence of an exudation, an extravasation, or a hemorrhage into the labyrinth, the administration of

the iodide of potash or of mercury, or both, would certainly be indicated; but, given late in the disease, these are valueless. The greatest care should be taken to build up rather than break down tissue; for there is generally in these cases of supposed exudative disease ample ground for the belief that in overwork a minute vessel in the labyrinth has ruptured or that a passive exudation has occurred from the walls of several vessels.

In conclusion, let me say that I have brought before you the following facts:

1. That there are two sets of fibres in the auditory nerve,—viz., the sensory and the motor.

2. That the motor filaments are connected on one side with the cerebellum by means of the inferior peduncles, and on the other side with the nerve-filaments sent to the ampullæ of the semicircular canals.

3. That irritation of these ampullar nerves may be conveyed from either of the three parts of the auditory apparatus, or from the auditory nerve itself, in the mechanical form of pressure, and that this irritation may be further conveyed to the cerebellum and cause vertigo: so that it logically follows that this reflex cerebellar phenomenon as produced by aural irritation should receive the general denomination of *aural vertigo*, and that Ménière's disease is only a form of aural vertigo. Hence the latter name, unless used after accurate diagnosis of a disease originating in the labyrinth,—i.e., in the semicircular canals,—will create confusion. But it should be said, in justice to Ménière, that, so far as the writer knows, he has never claimed a general application of his name to all forms of aural vertigo. It has been so applied only by well-meaning but inaccurate diagnosticians.

TREATMENT OF UTERINE FIBROIDS WITH IODINE.

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I WAS consulted, September 17, 1880, by Mrs. F., aged 40 years, married, mother of four children, the youngest eight years old. Complexion sallow, figure stout, weight about one hundred and fifty pounds, general appearance anæmic. She had suffered for over three years from frequent and profuse menstruation; had always been short of her regular time, the periods occurring often twice

in the month, and the flow amounting sometimes to flooding, confining her to her bed from four to six days each time. She first passed large, firm clots, several during the catamenial period that seemed a handful, attended by straining and pain, much like labor-pains, which was followed by an irregular and hemorrhagic flow, inducing a long train of neurasthenic symptoms and greatly-impaired health. She had dragging pains of the pelvis and back, had headache, was nervous, had half-sight, palpitation of the heart, irritable bladder, and constipation.

September 20 I made an examination; found the uterus lower and larger than normal, retroverted, firm to the touch, the external os patulous, admitting the point of the index finger, easily tilted forward, slightly abraded, with some moisture of a leucorrhœal nature at os. The probe passed in four and a half inches, by depressing the point so as to conform to the inequalities of the anterior wall of the organ, which on palpation was found to be much thickened. No evidence of cellulitis or other abnormal surroundings was observed.

Some bleeding occurring from the manipulations, I painted the os and cervix, as far as I could penetrate, with compound tincture of iodine, promising to continue it twice a week, and directed the patient to use hot-water vaginal injections daily, the water to be as hot as she could bear.

I applied the iodine on the 23d and on the 27th, menstruation appearing during the week: sickness in the family prevented my continuing the applications, and they were interrupted for the time.

The menstrual period just passed was much more comfortable; she was sooner over her sickness, had less flow, and felt better. The period in October was completed with comparative ease, the duration of the catamenia was not prolonged, and the amount of the discharge was not excessive. A short time after her last period she met me on the street and said, with evident delight, "I bless you every day for the good you have done me. I am so much better!"

Her period in November, however, was not so fortunate for her. I saw her on the 16th with quite a flow, which continued from day to day to an alarming degree, in spite of every remedy used to arrest it. I gave her large doses of Squibb's fluid extract of ergot, gallic acid, sulphuric acid, acetate of lead and opium, applied cold compresses, kept her head low, with absolute quiet, without benefit, until the 21st, when I was prevented from seeing her until the 26th, Dr. Basil Norris kindly visiting her for me. The hemorrhage during this time continued with unabated severity, which not even the tampon and other means employed could control.

In order to ascertain the cause of the hemorrhage and to facilitate local treatment, large

sponge-tents were now introduced successively until the proper dilatation was secured, and on exploration of the uterus by Dr. Norris and myself, by digital examination and the probe, a fibroid tumor was discovered embedded in the anterior wall, extending from the neck upward towards the fundus, oblong, and as large as a hen's egg. The uterus, cervical canal, and vagina were filled with cotton-wool saturated with persulphate of iron, and the hemorrhage ceased.

We visited the patient together until the 27th, at which time, though convalescent, she was still weak, pale, and faint on the least exertion. No bleeding occurred after the effectual plugging of the uterus, and there was no consecutive irritation set up by the necessarily continued manipulation.

Surgical means for her relief was discussed, but nothing definite was determined upon, as her husband was absent from the city, and we thought it advisable that he should be apprised of her condition, so that he might be present in case surgical interference should be required; and further proceedings were postponed indefinitely.

Iodine was also spoken of, but was not considered of much value, as the little benefit it might accomplish was not thought sufficient to compensate for the uncertainty and trouble it would occasion, and serious results might be precipitated by delay.

The patient, however, expressed a wish that I would continue the iodine, as she said she felt better after the two or three applications I had made; and, to employ the time, I consented to continue the applications to the uterus twice a week for an indefinite time.

I began the applications January 14, using Churchill's tincture of iodine, and directed her to take ten to fifteen drops of compound tincture of iodine (U.S.D.), largely diluted, three times daily, and also to continue daily the hot-water vaginal injections.

I continued this treatment until May 12 following,—nearly four months,—only omitting during the menstrual period, beginning it as soon as the menstrual effort was completed, and discontinuing only when menstruation was apparent.

Nothing occurred during the treatment worthy of special mention. She had no hemorrhage or excessive flow after the commencement of treatment. Her periods became regular and painless, the flow normal in time and quantity, and the record showed such steady improvement in general health that I concluded to make a further examination to see what change had been made after so long a treatment.

May 12 I introduced a large sponge tent, and removed it on the 13th. By digital examination I found to the touch the uterine surface and cervix smooth and even, the uterus reduced in size, and its position good. The probe passed in three inches without

obstruction. No trace of the tumor could be found.

Anxious that my conclusions should be verified, I introduced a larger tent, and requested Dr. Basil Norris, who had seen the case with me before, to meet me in consultation the next day to examine the patient with me again.

Dr. Norris met me as requested, and after removing the tent, the cervical canal being sufficiently dilated to admit the index finger, a careful, painstaking, and thorough exploration was made, and neither of us could find the least vestige of the tumor left, and we had no hesitation in expressing the opinion that it had been entirely absorbed.

June 15 she left the city for one of the Virginia springs, where she remained until September 15. She wrote me in July that she was well, and had had no return of her troubles, though she walked a good deal, even up to the top of the mountain. When she returned in September her weight was one hundred and seventy-three pounds.

She was, of course, approaching the menopause, when naturally most of her troubles would lessen or cease, though not necessarily so; but she has been placed by the treatment in a better condition of health, and will be better able to endure any change that might occur to her at that period which most women rather dread than invite; her mental stamina and nervous energy are stronger, and she is relieved from the annoying reflection that she has a *tumor* which at any time might put her life in jeopardy, either of itself or peradventure by reason of any operation that might have been considered or rendered necessary.

She has kept well to the present time, has been able to perform her usual duties, and has required no further treatment; and I think I am justified in reporting the case as one of those that occasionally occur in practice where absorption takes place either by natural or by artificial means.

There is nothing new in the use of iodine in the treatment of uterine fibroids; but I have attempted its application in a number of cases, rather experimentally, with the view of testing its utility, or confirming the cases reported, though vague, heretofore made in that direction. I must say, however, that, while the literature of uterine fibroids is very voluminous, I have been able to find very little illustrating their successful treatment by any purely medical means.

The text-books treat of it only in a given way,—teaching either surgical interference or nothing, that no remedies directed internally or externally can reach abnormalities of this kind; and it is better to trust to na-

ture than to risk the uncertainties of such therapeutics.

They teach that uterine fibroids continue to grow until the menopause, and that if not removed by manipulation or operation they undergo a certain degree of atrophy with the cessation of uterine or ovarian function, and cease to be in any great degree a source of annoyance, or at least of danger; and even during the age of uterine activity nature may, unaided, effect a cure by the following means: absorption or atrophy, direct expulsion by rupture of attachments, sloughing from deprivation of nutrition or inflammation, calcareous degeneration. (Thomas.)

Under "Absorption," Thomas says, "Whether their absorption can be excited by any medicines at our command is very doubtful. Tumors have, in certain instances, been known to disappear while drugs have been employed, and perhaps they did so in consequence of their use. But no such effect can be looked for with any confidence. Indeed, with our present experience such a result must be regarded as decidedly exceptional. Scanzoni, after advising those medicines which are most popular as stimulants of absorption, says, 'We do not remember a single case in which, with the means indicated or with others, we have obtained the complete cure of a fibrous body.' And, further, that whatever drugs be tried should be continued for many months, and even a year or two before the trial can be considered fairly made; for their action is never immediate."

Emmet says, "Different agents have been put forward from time to time as efficacious in causing absorption of these growths, but as yet none have fairly stood the test. We are to-day ignorant of any means other than extirpation by which a hard fibroid can be removed from the uterine tissue; they do sometimes disappear through the unaided efforts of nature, but we are in the dark as to the exact process."

West says, "But it may be asked whether there is no remedy that exerts a specific influence on the growth of these tumors,—none by which we can obtain their absorption, or at least feel sure of putting a stop to their growth. I very much fear that no such remedy exists, or at least has been at present discovered."

Churchill says, "We know that such tumors have been absorbed spontaneously;

and we know also that certain medicines have the power of quickening absorption, and it is not unreasonable to expect that a judicious administration of such will be followed by success."

Schroeder (in Ziemssen's "Cyclopædia of the Practice of Medicine") says, "The termination of fibroid tumors, in the great majority of cases, consists in an arrest of growth. . . . But even when the fibroid continues to grow, and gives rise to serious symptoms, the growth is ordinarily very slow, and it is likely to terminate at the menopause, or even to recede from that time. Quite an array of instances of the complete or almost complete disappearance of fibroid tumors may be found in literature, in some of which the diagnosis may appear a little doubtful, but in the majority of which its correctness may be regarded as beyond question. . . . If we inquire under what circumstances and by what means that absorption was accomplished, we shall receive no very satisfactory answer. . . . The most unreliable results seem to follow therapeutic interference. . . . We should distinctly remember that all the means recommended usually fail, and we have no internal treatment from which in any individual case we are justified in expecting good results with the least degree of certainty."

Williams (Reynolds's "System of Medicine," vol. v. pp. 763-7) says, "With a view of effecting a cure, several medicines have been in use. When treatment is undertaken with this view it should be distinctly understood that the prospect of causing absorption of these growths is exceedingly slight, and that no treatment can be of any avail unless persisted in for a prolonged period."

In regard to the treatment of fibroids, and of the remedies to be employed, there is a great diversity of opinion among gynecologists. Leaving out of the category surgical interference, which would seem to be more applicable to the peduncular, interuterine, submucous form (though Thomas says, "Uterine fibroids, whether submucous, subperitoneal, or interstitial, may frequently be removed by excision, écrasement, enucleation, or gastrotomy"), the medicines recommended for the production of the absorption or cure of fibroids are various and multiple.

Emmet says, "Drs. Churchill and Savage recommended the use of iodine to

promote the absorption of fibroids; Simpson and Wells, the bichloride of mercury; Simpson, the bromide of potassium; Rigby and McClintock, the chloride of calcium. The mineral waters containing the bromides have been thought to be efficacious. . . . Ergot has been extensively employed by different methods. . . . Electrolysis may have been employed with some benefit. . . . I have seen beneficial results from the long use of small doses of bichloride of mercury, in combination with an infusion of some one or more of the bitter vegetable tonics. . . . Sir James Y. Simpson held that to secure the full effects of bromide of potassium it was necessary to employ the remedy continually for months, or even a year or two. . . . The chloride of calcium I have never employed. . . . As a rule, great benefit is obtained from it (ergot) when given in small and continued doses."

West says, "Mercurial preparations most certainly have no influence in stopping the growth [of these tumors]. . . . And the alleged powers of iodine seem to have been very much overrated. The disintegration of the tumors and their expulsion have never, in my experience, succeeded the continued use of iodine. . . . Still, it is my belief that the rapid increase of these growths is sometimes restrained by this agent; and I am therefore accustomed to employ it as one of our best, though but an uncertain remedy. . . . The bromide of potassium has been spoken of as of superior efficacy to the salts of iodine, but the evidence on the subject is of that vague kind on which the temporary reputation of so many remedies in chronic diseases is founded. And I have no personal experience on the subject."

Churchill says, "The two remedies upon which most reliance can be placed are mercurials in small doses, with friction to the abdomen, and iodine." Dr. Ashwell has published (Guy's Hospital Reports) some very interesting investigations into the effect of iodine upon uterine tumors. "The tumors were hard and not ulcerated: some entirely disappeared, others nearly so. The iodine was given internally and applied to the cervix by the finger or whalebone every night." The average time for resolution was from sixteen to eighteen weeks. Dr. Ashwell's inferences from his cases are as follows: "First, the internal administration

of iodine and its use by inunction in hard growths or tumors of the uterus is *decidedly beneficial*, the advantage, if the remedy be judiciously employed, being unattended by constitutional injury. Second, in hard tumors of the walls or cavity of the uterus *resolution or disappearance is scarcely to be expected*, since the growths are adventitious or parasitic and are not embedded in glandular structure. Here the prevention of further deposit—in other words, *the restraint of the lesion within its present limits, and the improvement of the general health*—will be the extent of the benefit derived. Third, *hard tumors of the cervix, and indurated puckering of the edges of the os (conditions which most frequently terminate in ulceration), may be melted down and cured by the iodine.*"

Schroeder (Ziemssen's "Cyclopædia of the Practice of Medicine") says, "The remedies most employed are iodine, iodide of potassium, chloride of calcium (especially the English, who believe that it produces an atheromatous degeneration of the vessels), and ergot. Guéniot recommends arsenic and phosphorus for the purpose of producing fatty degeneration. . . . The experiences of the past, especially Hilderbrandt's observations on the *hypodermic use of ergotin*, should incite us to further attempts in this direction. . . . Bergelsdorf (*Berlin. Klin. Wochens.*, 1874, No. 2) reports doubtful results (better in chronic metritis)." Keating and Ashhurst (*Am. Jour. Obst.*, vol. vi. p. 139), as well as Goodell (in his report to the Pennsylvania Medical Society on the "Progress of Obstetrics and Gynæcology," 1873, p. 24), agree that "the internal remedies to which has been ascribed the power of influencing the absorption of fibroids, such as iodine, bromine, and chloride of calcium, deserve but little confidence."

Williams (Reynolds's "System of Medicine," vol. v. pp. 763-4) says of iodine, "Its effects are by no means of a satisfactory character," and of bromide of potassium, "Though I have tried it extensively, I have not been able to discover that it has any effect whatever on the growth of the tumor."

It would appear from the distinguished authorities quoted above that medical interference in the treatment of fibroids is almost time wasted; that the remedies are uncertain in their action and effects, and the treatment tedious, protracted, and

unsatisfactory; that while there may be isolated cases reported by authorities entitled to the highest respect, as in the reports made by Dr. Ashwell, where continued treatment met with success, the proportion is so small to the general mass undergoing treatment that they are not considered of sufficient importance to justify the recommendation of the method as worthy of confidence in the management of fibroids in general.

It may not be out of place, however, to say that it is very well known that the muscular structure or parenchyma of the uterus is largely supplied with lymphatics and blood-vessels,—larger, of course, in the impregnated state, and larger also in any condition causing hyperæmia,—scattered throughout its organization. It is by these channels that involution takes place so rapidly at the termination of pregnancy. "Within a few weeks," says Carpenter, "after delivery the uterus regains (at least in a healthy subject) its previous condition;" and Flint says, "At from four to six days and seldom later than eight days after parturition, the uterus has sensibly advanced in the process of involution, and it is gradually reduced to the size and structure which it presents during the non-pregnant condition, and their involution is complete at about the end of the second month." The uterus is reduced, in this short time, from one and a half to three pounds in weight (Gray), or twenty-four ounces (Leishman), to eight to ten drachms (Gray), two ounces (Leishman), by a rapid absorption of its soft and friable structure, disintegrated and broken down by fatty degeneration and atrophy of its tissue, the larger proportion being absorbed into the circulation and discharged from the system by the ordinary excretory channels. It is for this reason and through the same channels that septic or deleterious matter can be so readily absorbed from the uterus, through its numerous large and tortuous lymphatics and sinuses. I have seen, and I have no doubt many have witnessed the same, a retained placenta produce all the horrors of septic poisoning and a fatal result in less than a week; and every one is familiar with the action of remedies, the absorption of medicines as applied to the uterine canal,—medicines such as iodine being detected in the urine, and even tasted, in a very short period after its use. Retzius (of Stockholm) and others have frequently

detected fat-globules after parturition, in puerperal women, in the lymph-channels coming from the uterus.

As long ago as 1821, during a course of experiments on absorption of medicines under the auspices of the Academy of Medicine, Philadelphia, at the expense of Dr. Nathaniel Chapman, Drs. Richard Harlan, B. H. Coates, and John V. O'Brien Lawrence being named for the service, the experimenters believed that they had established among propositions—that absorbed fluids pass into the circulation both by the route of the local veins and by that of the lymphatics and lacteals; that absorption by the lymphatics continued as a regular process after the cessation of the circulation and of the animal functions. This was considered an *experimentum crucis*, demonstrating beyond denial the error then entertained by M. Magendie in supposing that the lymphatics absorbed nothing, but were mere instruments for returning the serum of the blood. (See Pareira, vol. i. pp. 165-6.)

Lymphatics are distributed wherever there is a vascular net-work. Their origin cannot be clearly traced, but they seem in general to form a plexus in the substance of the tissues from which the emergent trunks arise (Carpenter); and Flint says, "the function of the lymphatic gland is obscure." So that it would appear that the cause and process of involution, and hardly any other function of the uterus, has never been fully understood or described. All that seems to be really known of involution is that fatty degeneration takes place in the uterine parenchyma, that the muscular fibres, after parturition, present granules and globules of fat in their substance, and, according to Paget, the fibrous substance being absorbed is seen to be dotted by granules (which are known to be oil-particles by their peculiar shining black-edged appearance), and at the same time loses its toughness and elasticity, and is no longer rendered transparent by acetic acid; while the lymph-cells present a similar increase of shining black-edged particles like minute oil-drops, which accumulate until they nearly fill the cell-cavity, their nuclei at the same time gradually fading and disappearing.

Much, therefore, about the function and domain of the lymphatics, deep and superficial, of the uterus, is doubtful or uncertain; enough, however, is known to justify

the belief that an important office is performed by the absorbents, both lymphatics and veins, and that they are not only capable of breaking down and softening hardened tissues and presenting them in a suitable condition to be absorbed, but actually do so under stimulus either natural or artificial, and experiments may not be necessary to prove that the uterus is capable of ridding itself of any abnormalities, of any extraneous substance connected with its walls or surface, by its own innate power, that wonderful power by which all its other functions are performed.

It does not seem to militate seriously against the proposition that these tumors are remediable, as advanced by Dr. Ashwell, that "in hard tumors of the walls or cavity of the uterus resolution or disappearance is scarcely to be expected, since the growths are adventitious or parasitic, and not embedded in glandular structure," for Klebs says, "Microscopic investigations show that the chief mass of the tumor consists of smooth muscular fibres, which considerably exceed in size those of the unimpregnated uterus," and "the further increase of size of these tumors ensues rarely by the coalescence of several of them; more frequently it takes place by the same process being repeated which gave rise to the smallest and simplest fibromyomata." It is just these hypertrophied bundles of muscular fibres which it is conceived are subject to attack by any means that would arrest their multiplication or enlargement, and possibly might yield to treatment as readily as in any other part of the economy.

I have learned this much from treating quite a number of cases,—cases probably in the incipient stage, and due probably to simple hyperplasia or proliferation of tissue,—that by iodine the hemorrhagic status is changed, the menstrual periods prolonged or made regular, their approach and attack shortened, and the interval made more comfortable; and this is thought sufficient excuse for presenting a subject, based upon the above case, which, though trite, merits continued prosecution.

For those who wish to investigate the subject of fibroids of the uterus, I append the following bibliography:

DARBY, Proc. Dublin Obst. Soc., 1871, p. 145. BUHL, R., *Beitrag z. Geburtsh. u. Gynäkol.*, i., 1870-72, pp. 76-78. BUDD, C. A.,

Clin. Lect., *N. Y. Med. Press*, 1859, N. S., vol. i. pp. 344-46. HOMANS, C. D., Separation of, Ext. Boston Soc. Med. Imp., 1862, vol. i. p. 66. SUESSEROTT, J. L., Abscess of, *Phil. Med. Times*, 1876, vii. pp. 171, 172; Trans. Am. Gynæcol. Soc., Boston, 1876, i. 168-84. GUÉNIOT, Mém. sur Guérison par Resorpt., *Bull. de Thérapeut.*, Paris, 1872, No. 82, pp. 254-65. RULOFF, P., Ueber Spontan. Elim., etc., 8vo, Greifswald, 1873. MCCLINTOCK, A. H., Spontan. Elim., *Dublin Qr. Jour. Med.*, 1868, xiv. pp. 20-35. ASHWELL, S., Diminution and Disappearance of, *Lancet*, 1854, vol. i. pp. 180-82. BOURCÉ, G., Étude sur les Tum. fib., 4to, Paris, 1867. MEADOWS, A., *Lancet*, ii., 1873. DRONAUT, T., 8vo, Paris, 1868. KIDD, G. H., *Dublin Jour. Med. Science*, 1875, pp. 454-62. HILL, J. M., Annal. de Gynéc., Paris, 1875, pp. 239-52. SIMS, J. MAR., *N. Y. Med. Jour.*, 1874. MCCLINTOCK, A. H., *Dublin Qr. Jour.*, 1862, p. 450. BYFORD, W. H., Ext. Trans. Am. Med. Soc., 1875. KURTZ, E., On Metamorphosis of, *Deutsche Zeitsch.*, 1877, p. 258; *N. Y. Med. Rec.*, 1870, p. 90. PLAYFAIR, W. S., Trans. Obst. Soc. London, 1868, x. p. 102. ENGELMAN, *Edinburgh Med. Jour.*, 1877, p. 127. LEE, Jacksonian Prize Essay, Churchill, London, 1847. DUMESNIL, DE R., *Le Courrier Méd.*, Paris, 1869, xix. pp. 29, 30; *Trans. Jour. de Méd. Prat.*, Paris, 1830, pp. 5-15; discussion. SPIEGLER, *Wochens. f. M. Ges. Heilkunde Verein*, 1851, pp. 529-34. ASHFORD, F. A., Trans. Med. Soc. D. C., 1875, iii. p. 149. CRANDLE, J. B., *Chicago Med. Jour. and Ex.*, 1875. LOHBEN, H., Spon. Separ., *Zeitschrift f. Geburtstsh. u. Gynaekol.*, Stuttgart, 1877, i. pp. 120-29. DUNCAN, R., Spon. Separ., *Edinburgh Med. Times and Gaz.*, 1872, pp. 7, 8. HUTCHINSON, Proc. Path. Soc. Phila., 1871, pp. 32-34. ROYER, L. A. H., *Revue Méd.*, Paris, 1845. WELLS, Trans. Path. Soc. London, 1863, xiv. p. 104. MASON, *N. Y. Med. Record*, 1877, xii. p. 218. BYFORD, W. H., Expulsion, *Arch. Clin. Surgery*, N.Y., 1877, p. 64; *Bullet. Soc. Anat.*, Paris, 1847, pp. 51-54. RIGBY, E., *Med. Times and Gaz.*, London, 1855, x. pp. 156-209; *Med. Times and Gaz.*, London, 1857; *Phila. Med. Times*, ii., 1872, p. 134. TYSON, J., *Phila. Med. Times*, iv., 1874, p. 371. COWAN, P., By Ergotin, *Amer. Practitioner*, Louisville, 1874, x. pp. 74-76. FURST, Spon. Separ., *Arch. f. Gynaekol.*, Berlin, 1877, xi. pp. 393-96. DEAN, H. A., Cured by Ergot, *Boston Med. and Surg. Jour.*, 1878, pp. 100, 101. THOMAS, T. G., Post-Uterine, *N. Y. Med. Record*, 1878, xiii. pp. 47, 48. BRUBAKER, H., Two Cases cured by Ergot, *Phila. Med. Times*, 1878, pp. 174-76. PARRISH, W. H., *Amer. Jour. Obst.*, N. Y., 1878, p. 163. LEISHMAN, W., *Glasgow Med. Jour.*, 1864, 1865, xii. p. 263. GURGON, F., 8vo, Paris, 1860. KIDD, Proc. Dublin Obst. Soc., 1871, 1872, p. 129. KIDD, Proc. Dublin Obst. Soc., 1875, pp. 143-56, also 1873. ENGELMAN, *Obst. Jour. Great Britain*, 1878. GOODELL, W., *Phil. Med. Times*, 1872. DUN-

CAN, M., Spon. Separ., *Med. Times and Gaz.*, 1872, vii. pp. 7, 8. HUTCHINSON, Proc. Path. Soc. Phila., 1871, iii. pp. 33, 34. RECHET, Evolution, *Ecole de Méd.*, Paris, 1876, iii. p. 46. MASON, R. O., Spon. Sep., *N. Y. Med. Record*, 1877, xii. pp. 218, 219. TYRELL, G. G., Spon. Sep., *Pacific Med. and Surg. Jour.*, San Francisco, 1877, xix. pp. 385-93. MADGE, Trans. Obst. Soc. London, 1866, viii. p. 105. WORMS, J., Expulsion, *Gazette des Hôpitaux*, Paris, 1869, p. 418. MILLER, C. V., *Boston Med. and Surg. Jour.*, 1875, xciii. p. 126. DUMESNIL, L., Spon. Sep., *Gazette des Hôpitaux*, Paris, 1869, p. 22. MEADOWS, A., By Ulceration, *Obst. Jour. Great Britain and Ireland*, London, 1870, p. 34. BARNITZ, G., Spon. Sep., *Bull. Gén. de Thér., Méd. et Chir.*, Paris, 1866, xli. pp. 518-22. MEADOWS, A., *Lancet*, London, 1873, i. p. 657. DUMESNIL, Spon. Sep., *Bull. Soc. Imp. de Chir.*, 1869, 2 s., iv. pp. 494-97. CHRON, Zweiter Report, *Deutsche Med. Wochens.*, Wien, 1851, p. 182. KAUFFMANN, Spon. Sep., *Beitrag f. Geburtshilf.*, 1874, iii. pp. 72, 73. HOMANS, C. D., Spon. Sep., *Boston Med. and Surg. Jour.*, 1859, p. 242. BARNES, R., *Lancet*, London, 1860, p. 221. APPERT, F., By Softening, *Med. Times and Gazette*, 1868, p. 209; *Lancet*, London, 1873, p. 663. PAGE, J. R., *Amer. Jour. Med. Sci.*, April, 1870, pp. 391, 392. CLARKE, J., Trans. Soc. for Imp. Med. and Chir. Knowledge, 1812, iii. 298-307. SHATTUCK, *Boston Med. and Surg. Jour.*, 1869, p. 174. HEWETT, G., Expelled, Trans. Path. Soc. London, 1859, xi. p. 173. MORRIS, J. C., *Am. Jour. Med. Sci.*, July, 1869, p. 113. WATERS, O. F., Spon. Sep., *Liverpool Med. and Chir. Jour.*, 1857, i. pp. 261, 262. RIGBY, E., *Med. Times and Gaz.*, London, 1846, xiii. p. 493. CHALMERS, *Amer. Jour. Med. Sci.*, N. S., x., 1845, pp. 75, 76. DAVIS, J. H., *Obst. Jour. Great Britain and Ireland*, 1874, i. p. 633. HICKS, J. B., Spon. Sep., Trans. Obst. Soc. London, 1865, vii. pp. 110-12, 1 pl. WATSON, W., *Nashville Jour. Med. and Surg.*, 1851, pp. 1-6. BONNEFONS, Expulsion, *Moniteur des Sci.*, etc., Paris, 1860, ii., 2 sér., pp. 882-86. NOTTA, Expuls., *Bull. Soc. de Chirurg.*, Paris, 1859, p. 470. GEISSEL, R., Ergot Injec., *Deutsche Med. Wochens.*, Berlin, 1877, iii. pp. 228-29. REAMY, T. A., *Clinic*, Cincinnati, 1878, xiv. pp. 157-59. SPIEGELBERG, O., Spon. Discharge, *Archiv f. Gynaekol.*, Berlin, 1874, vi. pp. 515-17. GARDNER, W. T., Ergotin, *Glasgow Med. Jour.*, 1864-65, xii. pp. 177-88. HAMON, L., Sur les Irrigations, *Bull. Gén. de Thérap.*, Paris, 1869, lxxvi. pp. 533-35. CHAMPNEYS, F. H., St. Bartholomew's Hosp. Reports, London, 1877, xiii. pp. 109-23. LAUGIER, *Bull. Soc. Anat.*, Paris, 1866, xli. p. 124. GARNIER, *Bull. Soc. Anat.*, Paris, 1857, xxxii. p. 8; also same journal, 1841, 1843, 1846, 1847, 1851. BOSCREDON, Discussion, *Bull. Soc. Anat.*, Paris, 1854, pp. 332-34. KIDD, *Dublin Jour. Med. Sci.*, 1874, xii. p. 281. CRANNEY, *Irish*

Hosp. Gazette, 1873, p. 223. KIDD, *Obst. Jour. Great Britain and Ireland*, 1874, ii. pp. 47, 48. MARTIN, *Bull. d'Anat.*, Paris, 1863, p. 182. MEARS, J. E., *Phil. Med. Times*, iv., 1874, p. 371. VELPEAU, *Jour. de Méd. et de Chir.*, etc., Paris, 1851, 2 s., xii. pp. 498-500. LITTEN, 53 *Jahresbericht d. Schlesisch Gesellschaft. f. Vaterl. Cultur*, Breslau, 1876, pp. 189, 190. *Trans. Méd., Jour. de Méd. Prat.*, Paris, 1820, ii. pp. 5-13. MAISONNEUVE, *Bull. de la Soc. Chir.*, Paris, 1851, i. pp. 458-67. LISFRANC, J., *Bull. Gén. de Méd. et Thér.*, Paris, 1843, pp. 189-97. SIMS, J. M., 8vo, N.Y., 1874. BALFREY, J., *Medical Press and Circular*, London, 1867, pp. 23-26. HILL, J., *Bull. Soc. de Chirurg.*, Paris, 1875, p. 596.

TRANSLATIONS.

THE PATHOLOGY AND TREATMENT OF EPIDEMIC CEREBRO-SPINAL MENINGITIS (based upon a study of seventeen cases occurring in Hamburg, and a review of recent literature of cerebro-spinal meningitis).—Dr. Karl Jaffé contributes to the *Deutsches Archiv für Klin. Med.* (January, 1882) an interesting contribution to the knowledge of this subject. He regards epidemic meningitis as an infectious disease characterized by an altogether specific virus, appearing sporadically as well as epidemically, and extended just as well through miasmatic influences as by contagion. The origin of the *materies morbi* is as yet undiscovered. As regards the season of the year when most prevalent, it is generally believed that most of the cases occur in the winter and spring; but of the cases reported by the author seven were in the spring, eight in the summer, and only two in the winter. As to sex, the usual preponderance of males is noted, thirteen males to four females; and as to the age, more than half the cases occurred between the twentieth and the thirtieth year. Nothing definite was ascertained with reference to the relations of the residence and mode of life of the patients; at least, no useful conclusions could be drawn from the investigation, and the writer was obliged to fall back upon the nature of the virus itself as the only explanation possible. That such exists can be considered as demonstrated; it also has lately become highly probable that it is less of a miasm than a contagion; but whether this contagion is fixed or volatile, living or not, or entirely parasitic in the modern sense, is a question of the

highest interest, but whose solution is probably at present only in its first beginnings. Careful examinations of the blood, and of the exudation into the pia, after the method of Koch and others, were made, but with only a negative result. Unless further observation yields more positive results, the conclusion is warranted that epidemic meningitis is not a parasitic infectious disease. That it has many points of similarity with such diseases the author admits. Indeed, he does not deny that in some forms a true pyæmic character is seen; twice he observed endocarditis, five times joint-affections, and once muscular abscess; he concludes, however, that the literature of the last few years has taught us to be cautious in regard to pathological conclusions based upon analogies. He believes that science will be rendered better service by an open and honest "Ignoramus" than by reflections and speculations that busy themselves in setting in place of anything unknown something just as little proved.

In regard to *symptomatology*, little new is observed. In ten cases prodromata were recorded. Headache was noted in fourteen; vomiting in twelve; delirium in ten; in two the delirium was of such furious character that the cases were mistaken for delirium tremens and were sent as such to the hospital. This diagnostic error can be prevented by paying due attention to the history of a sudden beginning, with complete loss of mind, without tremor. The stiff neck occurred in sixteen cases, hyperæsthesia in eight (of which six were cutaneous and two muscular). Anæsthesia occurred in only one patient, in whom, indeed, cutaneous anæsthesia was associated with muscular hyperæsthesia. Disturbances affecting the organs of vision were seen in ten cases (conjunctivitis, keratitis, amaurosis, nystagmus, diplopia, and inequality of the pupils). The ear was affected in one case (otitis media purulenta, with perforation). Diseases of the respiratory organs occurred in four cases (two of pneumonia, and one each of bronchitis and gangrene of lung); of the heart there were two, both of ulcerative pericarditis, one of which was complicated by purulent pericarditis. Enlargement of the spleen was noted in three cases, of which one was supposed during life to have been due to previous malarial infection. Transitory albuminuria was found

only in one; affections of the joints five times.

As regards the *duration* and results of the disease, the time of illness varied from two days to four months; the issue was either in death or recovery. Permanent sequelæ or incomplete cure were not observed; nor were there any relapses. Of the seventeen cases, seven were cured, ten died,—a mortality of fifty-nine per cent. Epidemics usually vary in severity from twenty to seventy per cent., according to Ziemssen, the average being about forty-five per cent.

The *diagnosis* of sporadic cases presents difficulties, especially in the first few days. The differential diagnosis requires the following to be taken into consideration: idiopathic (traumatic) spinal or cerebro-spinal meningitis, tubercular basilar meningitis, typhoid fever, intermittent, asthenic pneumonia, tetanus, delirium tremens, and acute mania.

From traumatic meningitis the specific form may be distinguished by the history; but it must not be forgotten that it is precisely the wounded that are especially liable to suffer from this infection: on the other hand (as one of the cases herein reported witnesses), an individual suffering with cerebro-spinal fever may receive accidental injuries to the skull and yet die of the original disease.

From tubercular meningitis the epidemic form cannot often be distinguished: two cases are mentioned which were mistaken for the latter, and it was only after an autopsy that their true nature was detected.

From typhoid fever meningitis may very soon be distinguished by the want of gastric symptoms, the absence of enlarged spleen, and the spinal symptoms, which in typhoid never appear in such intensity.

An intermittent may be soon recognized through the effects of quinia. Severe pneumonias, especially when they appear during an epidemic of meningitis, may be mistaken for the latter; furthermore, the possibility of a combination of pneumonia with meningitis as a complication must be borne in mind. Only the further course of the disease can clear up this point.

The same observation holds good for tetanus, which, moreover, can only very seldom be brought in question.

For delirium tremens the points of distinction have already been stated above.

Finally, as regards the psychoses (acute

and transitory mania, epileptic insanity, and acute delirium) occurring during an epidemic, it is only necessary to bear in mind the possibility of their occurrence: careful and sufficient observation will enable us just here to avoid diagnostic errors the soonest.

The *therapeutics* of this disease are quickly summed up. The author approves of the advice of the older observers with regard to the ice-treatment applied to the spine, and the use of narcotics, without which we can scarcely succeed even in the lightest cases. Blood-letting has only a very transitory effect. Of remedies, laxatives, especially calomel in large doses, are especially valuable. Mercurial inunctions in one case were without any influence worth mentioning. Prolonged bathing cannot generally be carried out; yet tepid and cool baths, when the temperature is high, are very useful. The medicinal antipyretics (quinia, salicylic acid, and also sodium benzoate) may be entirely discarded, because they are more uncertain than the baths, and they ruin the already weakened digestion. He found that the sick were always worse after their use, in the cases in which they were tried, so he finally gave it up. This medical nihilism will appear justified if we consider how largely those affected with meningitis perish, especially with the rapid form of the disease, how protracted is the convalescence, and what lasting injury must follow the use of every remedy and every means (we might here also include blood-letting) which in any way alters the digestive tract and affects the tissue-changes of the patient.

SUCCESSFUL GASTROSTOMY FOR CANCER OF THE ŒSOPHAGUS.—At the April meeting of the Medical Society of London, Mr. T. Bryant reported a case of an old gentleman, 65 years of age, who had been sick for several months with cancerous stricture of the Œsophagus, and unable to swallow anything but milk, in whom gastrostomy was successfully performed on the plan of Mr. House. In the operation, which he divides into two stages, he prefers to puncture the stomach with a small tenotome, making an aperture only large enough to admit a No. 10 catheter. He recommended the performance of the operation as soon as there is difficulty in swallowing solid food, as it retards the progress of the disease and saves much misery to the patient.—*Lancet*.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JUNE 3, 1882.

EDITORIAL.

THE AMERICAN MEDICAL
ASSOCIATION.

DURING the coming week the American Medical Association will hold its thirty-third annual session at St. Paul, Minnesota, the last meeting having been held at Richmond, Virginia. The principal advantage claimed for the peripatetic principle which has thus far guided the Association in its selection of places of convention is that it permits of a large and more general representation of the profession: held as the meetings are in all parts of the country in succession, it is possible for a number of physicians to attend and become permanent members who otherwise would not be able to do so. This advantage is real, and must not be underrated. By pursuing this plan the Association has nominally become what its founders intended,—a representative body,—and has escaped the control of any section or faction. Probably to this does it largely owe its permanence. At the same time, the report of the treasurer demonstrates the fact that while there is a large accession of new members at each meeting, only a small fraction of them keep up their membership. Hence it is evident that a large proportion of the voting strength of the Association must be composed of those inexperienced in the management of the business of this presumed representative body of the profession, and, to a greater or less extent, unfamiliar with its history and policy. The danger with such a convention is that it may be taken unawares, and—misled by some plausible but specious plea—may on the spur of the moment, acting upon im-

VOL. XII.—18*

pulse rather than judgment, commit the Association to a course that would be injurious to the best interests of both it and the profession. That this danger has not been recognized by those most interested in the welfare of the Association it would be folly to assert; indeed, we believe that this very tendency has on several occasions called forth all the powers of the friends of the Association in order to prevent such abuse of authority. We need not point to any specific instance in which bones of contention have appeared, nor shall we assert that designing men have ever sought to make a cat's-paw of the organization for ulterior purposes; but the possibility of the introduction of such measures is a constant menace to the harmony of the meetings. The questions of the abolition of the tax upon quinine and of the publication of a Pharmacopœia are recent topics that led to heated discussion; and neither their discussion nor their decision has added anything to the influence or importance of the American Medical Association. For this reason we hope that the question introduced at the last meeting in regard to patent medicines may be peacefully disposed of,—the more so because these resolutions appear to be entirely unnecessary, as the subject is already provided for in the Code of Ethics.

The danger referred to is not peculiar to the National Association: it threatens the existence of every similar organization, and is at times encountered in our State societies, which, however, are better protected by their more stable membership. The recent action of the New York Society may be cited as an instance of abuse of authority, by which barely fifty men committed the profession of a great State to a course which, outside of their little circle, has been universally condemned.

Two important questions are expected to be brought up at this meeting before the American Medical Association,—(1) the action of secession of the New York State

Medical Society, by its refusal to be any longer governed by the rules of the American Medical Association, and (2) the change in the manner of publication of the proceedings. The first question will doubtless be readily disposed of. Every association has the right of determining the qualifications of its own members. The American Medical Association stipulates that subscription to its Code of Ethics shall be required as an evidence of good standing and fitness for membership. Therefore, until other regulations are adopted, those who refuse to subscribe to the Code exclude themselves and cannot be received, whether as delegates or members by invitation. Permanent members disobeying the injunctions of the law are at any time liable to be refused registration on the formal complaint of any member, proof of the same being laid before the censors.

With regard to the publication of the proceedings, the arguments contained in Dr. Sayre's address are so strong that it can hardly be doubted that a change must soon be made. It is understood that the committee to whom the matter was referred is unanimously in favor of the publication of a periodical (perhaps weekly) journal, after the plan adopted by the British Medical Association. It is important that the difficulties and responsibilities incurred by such a venture should be duly considered and fully appreciated by the members of the Association, so that both their selection of the place of publication and the choice of an editor may be governed by the highest discernment and wisest discretion. The importance of this is recognized by so many that we believe that a final decision will not be reached until more mature deliberation has been held. In the mean time, the adoption of a plan like that of the Michigan State Society, referred to in another column, would have a good effect in stimulating to an earlier appearance the next volume of Transactions.

MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY.

THE State Medical Society of Michigan on May 10 and 11 held its seventeenth annual session, which appears to have been a very satisfactory one. Besides the routine business of the Society, a number of interesting communications were presented and unusual cases reported. Papers were read by Dr. Shurley, of Detroit, on "Laryngeal Phthisis;" Dr. George E. Ramsey, of Lansing, on "Uterine Tumors;" Dr. Eugene Smith, of Detroit, on "Suppurative Catarrh of the Middle Ear;" Dr. Wade, of Holly, on "Antiseptic Treatment of Disease;" Dr. Connor, of Detroit, on "Optic Neuritis considered in some of its Relations to Cerebral Tumors;" Dr. Burr, of Pontiac, on "The Insanity of Masturbation;" and Dr. T. M. Reynolds, of Detroit, on "The Value of Cold Air in the Treatment of Measles and Scarlet Fever." Dr. E. P. Christine reported two cases of malpresentation, in one of which spontaneous evolution occurred. The proceedings were enlivened by a medical poem on "The Æsthetics of Medicine," by Dr. Ward, of Lansing, which was well received. The President's address, by Dr. E. Jerome, of Saginaw, seemed also to meet general approbation.

In order to hasten the appearance of the annual volume of proceedings, resolutions were adopted, which we commend to other societies that complain of the dilatory action of their publication committees. After much discussion, the following resolutions, prepared by the Secretary, Dr. Ranney, were approved:

"Resolved, That papers read before this Society and referred to the Committee on Publication, with instructions to publish, shall, at the close of the session, be placed in the hands of the Society ready for printing.

"Resolved, That any member reading a paper before the Society is allowed to have such paper printed in any reputable medical journal after sixty days, under the statement, viz., 'Read before the Michigan State Medical Society, and printed in this journal with the consent of the Society.'"

Dr. George M. Topping, of De Witt, was elected President for the ensuing year, and

Kalamazoo was selected as the next place of meeting.

“BEWARE! SHE'S FOOLING
THEE.”

THE annoyances inherent to the nature of the physician's calling are legion; but assuredly the American doctor is a long-suffering animal, with an endurance equalled only by that of the quadruped with which it is said a former Georgia State law associated him in the bonds of taxation,—namely, the mule. Otherwise should we have had blood upon some Æsculapian lintel, and the newspapers would have detailed the death of some martyr to the commercial spirit,—*i. e.*, of a book-agent or a sample-medicine distributor. Which of these is the greater offender and ought first to be murdered is a very delicate question; but assuredly, for the relief of a suffering profession, one of them ought to be made an example of, and be required to seal with his blood his testimony as to the value of his book or the purity of his compound. The vendor of medical books, who divides the cost of his wares by putting one-half in his own pocket and one-half in that of his publisher,—in other words, who gives the physician half the value of what he pays for,—is a smooth-spoken and insidious rogue; but the oil that lubricates the tongue of his modern compeer puts to shame the smoothest emulsion which this same compeer lauds as the final achievement of pharmaceutical art. To us it is astounding that the trade of the book-agent or that of the sample-monger flourishes; but assuredly “there must be millions in it,” for it grows, grows, grows. If every physician would remember that it is the universal rule to pay fifty per cent. premium to the book-agent for selling the books, and that, with some exceptions, books sold by subscription are of the lower grade, the State of Pennsylvania would not be, as it now is, districted off, and each physician

studied, his weaknesses noted, his purchasing-power inventoried. Very large and expensive books can sometimes be published only by subscription, because the publisher must have some guarantee against too great loss; but beware, O brother, of finely-illustrated works! In these later days the devil has put it into the hearts of certain of his agents to buy worn-out plates of French and English books and therefrom to print American editions, which are palmed off upon the unsuspecting; though the man who is versed in such matters knows at sight that the prints are nearly worthless,—the mere spectres of their former selves. Anything which the book-agent offers at a cheap rate is certainly very, very nasty, though the nastiness may be somewhat hidden to the unwary victim.

LEADING ARTICLES.

THE OFFICIAL RELATION OF THE GERMAN MEDICAL PROFESSION TO THE GOVERNMENT OF GER- MANY: WITH A MORE DETAILED DESCRIPTION OF THE CONDI- TION OF AFFAIRS IN PRUSSIA.

AS in our country the time is undoubtedly approaching when the medical profession will be represented in our general and local governments, and its potent voice will be heard in the administration of our affairs,—a fact long ago recognized as necessary by all other civilized nations,—and as we can learn only from those whose great experience in these matters has enabled them to establish an almost perfect system of medical representation, it may be well to give a description of the official relation of the German medical profession to the government of Germany, and especially of the very effective regulations existing in Prussia. We may be permitted, however, first to recall to the memory of our readers a few political facts concerning the government of Germany and of Prussia.

As is well known, the German Empire consists of twenty-six States (including the free cities of Hamburg, Bremen, and Lübeck). Of these States, Prussia is by far

the largest and most powerful. Every free city and each State sends representatives to the German Parliament. The latter passes laws of a very general character only,—laws which are first proposed by the Union-Council, or *Bundes-rath*, which is constituted in somewhat the same way as the House of Lords, and is presided over by the Chancellor of the Empire. The execution of these laws is left to each State. Prussia, governed by a king, who is also the Emperor of Germany, has, like the other States, a Prime Minister, a Secretary of State, of the Interior, etc., and a Secretary for “spiritual, educational, and medical affairs.” The State is divided into a number of provinces, each under the direction of a President (*Ober-Präsident*); the provinces are subdivided into circuits (*Kreise*),—similar to our counties,—and these are under the control of a County Counsellor (*Landrath*). These few facts will be sufficient for our present purpose.

Regarding medical affairs, the German Empire has made only the so-called “Medical and Veterinary Civil Regulations”* the subject of general laws. To these belong: (1) *The examination of aliments* (general law of May 4, 1879: protection against adulteration of common articles of food and such as are used for enjoyment, and of certain other substances which are daily employed); (2) *vaccination* (general law of April 8, 1874, regulating compulsory vaccination throughout the Empire); (3) *the qualification to practise medicine* by special permit for the whole Empire. The practice itself is free,—i.e., anybody can practise medicine, whether a medical doctor or not; but then he does so at his own risk; he cannot collect a bill, or issue a certificate of death, and he is prosecuted criminally if anything should happen to his patients, or if he calls himself “Arzt” (i.e., physician) on his sign or card. Either he must give any patients he may get to understand fully that he is no physician, or the State’s Attorney is bound to prosecute him, when, on conviction, the punishment is very severe,—from two to twenty years in the penitentiary, with solitary confinement and hard labor. In case of the death of a patient of such an individual, the latter is charged with murder. The title “physician” is given only after the candidate

has passed the very difficult State’s examination; and, as very seldom is anybody able to pass this examination who has not finished his four-and-a-half-years’ course of studies at one of the different universities of the Empire (the State’s examination being based upon the knowledge expected as a result of these studies), it is very rare for other than graduates to have the title of physician in Germany; and it is this title which gives its possessor the same right and immunity to practise which, in Pennsylvania, any person enjoys who has received the degree from a regularly-chartered college and recorded his diploma with the clerk of the county court. Occasionally it may happen that a candidate, after having finished his medical studies, has not the means to procure the title M.D. at a university. In such a case he passes first the State’s examination, but as soon afterwards as he is financially able to do so, he procures his M.D. If a person wishes to practise homœopathy (gradually dying out in Germany), he has to pursue exactly the same studies as any other medical student, with only this difference: he must attend also the lectures of the professor of homœopathy, such a chair being provided for at almost every university in Germany. But the fact that a homœopathic physician in that country has to go through the same studies and pass the same severe examination in all the branches as the “regular” physician has brought about the expected result: homœopathy, which was for a time somewhat fashionable in Germany, is daily less practised there. (4) *The establishment of a Board of Health of the Empire*.—This is only a technical authority, without administrative power, is immediately subordinated to the Chancellor of the Empire, and has to do the preliminary work in devising laws, etc., especially such as concern the public health. This Board may be considered as the authority which the Chancellor consults in medical affairs, and the whole machinery of the government is employed in executing the laws emanating from this Board. Everything else concerning medical matters, as well as the execution of the general laws just mentioned, is left to the government of each State.

In Prussia, the best-governed of all the German States, the following regulations have been in force for a number of years:

* In German, “Medicinal- und Veterinär-Politzel”: literally, “Medical and Veterinary Police.”

1. *The Central Government* is the department of spiritual, educational, and medical affairs in charge of the Secretary of this department.

The medical division of the latter consists of a director and of three kinds of counsellors,—viz., (1) those who have to make a verbal report to the Secretary of any laws and other propositions of this division, and who are expected to give him any information he may wish on a medical subject; (2) those who have to attend to all technical work; and (3) those whose labor is administrative in character. The first class are called "actual" (*wirkliche*) counsellors, and receive the title "Excellency." The members of this division are selected from among eminent physicians in civil life, proposed by the Secretary to the king, and appointed by the latter. This division has the following labor to perform:

a. The supervision and direction of the whole Medical and Sanitary Civil Regulations, with the exception of veterinary affairs, which belong to the province of the Secretary of the Department of Agriculture, and such matters as are regulated by general laws of the Empire, the execution of which this division has to direct and superintend.

b. The control of the qualification of medical persons, and disciplinary power over those who are in the service of the State.

c. Superintendence and inspection of all public and private hospitals and other institutions for the sick.

Immediately subordinated to the Secretary are the following two boards, which are advisory in character:

a. *The Scientific Deputation* for medical affairs, sitting in Berlin, a consulting board called together by royal appointment. This board has to note carefully the scientific development of medicine, and to assist, by the employment of any results gained by the latest researches, the direction of the administration. The board has also to communicate the scientific principles which are to guide the government, and to give its opinion in all cases concerning the administration, and in criminal cases, when such opinion is asked for by the Secretary of any department as the final decision of the highest tribunal in such matters. Another function of this Deputation consists in the examination of

all higher medical officers of the government.

b. A technical commission for *pharmaceutical* affairs. This commission has to give the final decision in all questions concerning pharmaceutical matters, to revise from time to time the price-list for medicines, etc.

2. *The Provincial authority* for medical affairs consists of the *Medical Collegia*, under the direction of the President of the province. The medical collegia are also advisory boards in scientific and technical matters. They have no administrative power, but they give their opinion in forensic cases, and revise, when they think necessary, the medical tariff; they superintend the medical civil regulations of the province, take all necessary measures in cases of epidemics, make analyses of mineral waters and of water used for drinking, etc., and compile medical statistics. The President of the province is for all these cases the executive officer.

3. *Circuit Medical Boards*.—In each circuit there is a medical board. The County Counsellor is the chief officer of the Circuit Medical Civil Regulations. As his aids he has the actual medical officers,—the circuit physician, the circuit surgeon, and the circuit veterinary surgeon.

The *Circuit Physician*, appointed by the Secretary of the department after special examination by the Scientific Deputation, has control over all medical persons of his circuit as far as concerns the medical civil regulations and public sanitary measures; he is the expert before the courts of his circuit, and has to make the post-mortem examination in all accidents and suspicious and criminal cases.

The *Circuit Surgeon* is subordinated to the physician, but can be authorized to perform the functions of the latter. He is especially surgeon for the courts.

4. *Local Medical Boards* exist only in the larger cities. They are special sanitary commissions, consisting of the chief of the local police, the head of the local government, and several physicians. They officiate mainly in epidemics, decide questions of hygiene, and are partly advisory, partly executive, in character.

No other *official* organization and representation of the medical profession in Germany exists; but the interests of the profession are guarded in the same way as in

our country by county and State medical associations and local societies very similar to ours.

To illustrate the working of the above-described machinery, we will show its action in forensic cases. Suppose a person is accused of having killed somebody by poisoning. The circuit physician has to make the post-mortem and the chemical analysis. He is the impartial expert before the court. The defence has not the right of bringing any other physician as expert; but if it is not satisfied with the testimony of the official expert, who is subject to cross-examination, an appeal can be taken to the medical collegium of the province, and the examined viscera, as well as the testimony of the circuit physician, are sent to the collegium. From the latter, again, an appeal may be taken to the Secretary of the department, who submits everything pertaining to the medical part of the case to the Scientific Deputation, whose decision is final. A wrangle between so-called experts on both sides, such as we have to witness so often in our courts, and which degrades our profession in the eyes of the public, is never experienced in Germany, and at the same time more justice is done to such a case, after having passed through the different tribunals, than is possible in the United States: naturally the medical expert is far more esteemed by the public than is the rule in this country. Should our government adopt similar regulations in regard to the representation of the medical profession in the administration, the government would reap the benefit on one hand, while on the other the public would gain in two ways,—by the more effective prevention of disease in consequence of the general adoption of better sanitary measures, and by the higher standard of medical education which would necessarily follow.

CORRESPONDENCE.

LONDON LETTER.

A GENERAL quietness prevails among the profession here, and no book of much moment is out, except that of Mr. Watson Cheyne on the antiseptic system,—a subject on which he is indeed well qualified to speak and write. The last excitement has been the bacillus of tubercle of Dr. Koch, which is quite an illustrious stranger. Some slides

of the learned German's have been brought over and exhibited in the rooms of King's College. It appears that recently a systematic search has been instituted for the morbid organisms which belong to certain forms of disease. This is conducted with every precaution to keep each breed distinct. Not that any *mésalliance* is apprehended with these lowly creatures: probably kind only mates with kind, like buck and doe and stag and hind in localities where the red deer and the roe deer live together. Miscegenation is not the difficulty; but the tiny mites of creatures require a good deal of discrimination to identify them, even with a good microscope and a trained eye. For some time a difficulty existed as to the staining agent which should be adopted to bring out the little fellows in sharply-defined outlines, so as to identify each species of them. At last aniline has done for the bacilli what it has done for the tussah-silks of India,—namely, dyed them satisfactorily. The thin ribbon-like silk fibre of the uncultivated silk-worm would not take the dye which readily colored the small round fibre of the silk-worm of commerce; but aniline has solved the difficulty, and the tussah-silk to be seen at South Kensington is beautiful in hue and lustre. So with the bacillus. The difficulty was, he would not take dye kindly, and so his identification was doubtful. They have individualities or preferences, too, it seems, minute as they are. Methyl violet was a good dye, but the spirillum of relapsing fever would have nothing whatever to do with methyl violet, and had an affinity for aniline brown. The staining agent most liked by our new acquaintances is gentian violet; but Dr. Koch prefers methylen blue. Having got over this difficulty, then came the best means of fixing the material on the slide, and some other minutiae interesting only to those who are going to hunt for minute beings; and such persons will not look for information to the London correspondent of the *Philadelphia Medical Times*: it is scarcely in his line. His remarks must be of general interest, whether a little acrid gossip or a clinical observation of real weight in practice.

Having received an invitation from Mr. Watson Cheyne to be present at the demonstration, your correspondent went, as in duty bound. Down several flights of steps, along some labyrinthine passages, quite underground enough to be getting on the level of the sewer of the Thames embankment; at last a distinct smell told of animal tissues in a state which would bring a butcher into trouble with the authorities, as well as of oil of cloves and other odoriferous matters connected with microscopy. A dingy room, reminding one of the Esterhazy cellar in Vienna, with the lights of several microscopic lamps alone to relieve the gloom, and here was the little stranger to whom he was to be introduced. Powerful microscopes, evidently: that was the first ob-

servation. Finding one without an eye applied to it, your correspondent looked down the tube. On a salmon-colored ground were to be seen, in sharp outline, some small deep-blue objects,—that kind of blue which exercises the mind of the modern potter,—an intense blue. They might have been fragments of amethysts from the magic gardens of the "Arabian Nights"! Of course a stranger could not be sure of its identity; but there was no doubt that there were no questionings to be entertained as to the individual: there were those present who could swear to each, as clearly as an old Bow Street runner to a thief he knew. Then to another microscope. Looking down it, there was a field which reminded one of nothing so much as the salmon-roe used for angling purposes: there was the general color, and little bodies of deeper hue than the groundwork, like the berries of the roe. Then a direction was kindly volunteered to the amateur microscopist to look into the middle of the field, and a something would be seen bearing a faint resemblance to a cross-bow. Yes, there was such an object; but closer observation resolved it into two tiny lines nearly at right angles. Those were the bacilli of tubercle. Yes, "the germs of phthisis" were to be seen at last, in a form very different from what was understood when some poor victim of consumption was referred to clinically. The germs of phthisis looked more like two hairs of a beard a week old on a barber's razor-cloth than anything else to which the writer can liken them; but, nevertheless, there they were. Innocent-looking objects enough, fixed on that microscopic slide: they did not seem capable of all the iniquity they and theirs have perpetrated. Two small rods of violet-blue in a field of salmon-roe! There was the pathology of pulmonary tuberculosis, the fell enemy of our race. Well, two of these tiny villains were gibbeted, sure enough, to be stared at, as I suppose gibbeted objects usually were. *Homo bimanus* had the best of his enemy this time, anyhow. Then the crowd gathered thicker and thicker in the limited area of the dungeon-cell; for that was all it could be called. There was an opportunity for looking down one more microscope, and the writer availed himself thereof. Another salmon-colored field with some violet objects; these were violet, and not blue. Man is a "color-stupid" creature except in a ribbon-shop; but these were violet, that may be safely averred. They were the spores found in erysipelas, it seems. Seeing that these objects were under a magnifying power of one thousand diameters, or even more, some conception can be formed how minute they are. But they were spoken of with bated breath, these terrible enemies of man, and that, too, by men who are neither the most timorous nor the most credulous of their race. Respect, too, was not wanting in the attention paid to them. Since the days when the

Iroquois sachems came to good Queen Anne with offers to the Britisher to wield the tomahawk and scalp the French settlers on the northern banks of the St. Lawrence, an amiable readiness to be useful in the massacre line, of which George the Third availed himself without much scruple when the New England provinces rose against his rule,—probably since then no visitors have excited more intense curiosity. I was in Vienna when the Hungarian Löstörfer thought he had succeeded in fixing the specific spore of syphilis,—also an insignificant object,—and remember the excitement; but it soon evaporated, and since then the syphilis spore has relapsed into its primitive obscurity, conspicuous enough still in its ravages, but not stuck to a glass slide and looked at through a microscope,—a very proper distance to keep it at! There were, too, some very respectable personages having a sight at the bacillus of tubercle, *alias* the germs of phthisis, in that dingy, strong-smelling, dungeon-like room far underground. First there was Prof. Lister, his benignant-looking face beaming with a scientific satisfaction at the minute specks possessing such dire capacities here exhibited. Then there was Dr. Matthews Duncan, the famous gynecologist, who left Edinburgh for London about the time Prof. Lister flitted south. He was studying the germs; though not in his line, still there are tiny cell-growths found in the abdominal fluid at times which indicate that the removal of an ovarian cyst will be followed by a malignant outgrowth upon the peritoneal surface; and so he is familiar with the microscope. Not far away, and bearing a strong personal resemblance to the strongly-marked, characteristic face of the gynecologist, was Dr. Thin, a well-known observer of the skin and of the parasites, vegetable and animal, which infest it, as well as of some other parasites, as the *Filaria hominis sanguinis*. Then there was Dr. Stephen Mackenzie (brother of the famous authority on the larynx), who recently exhibited a patient with this *filaria* in his blood: he and a number of others had come to interview the illustrious strangers and take the measure of them. Bacteria, spirilli, bacilli,—the crowd thickens: we are likely to hear a good deal of these new acquaintances for some time to come.

One of the array of young hospital men who are ardent believers in the microscope as the finger-post of future pathology told me the other day, with quite a serious face and an air of sincerity which was ample voucher for his good faith, that a germ was in all probability at the bottom of acute rheumatism, instancing the points of resemblance betwixt it and pyæmia in affecting the articulations and the cardiac valves. A shudder went through my frame at the thought, But may not gout, too, be due to a germ? and then where were we poor, despised humoral pathologists, that were credulous enough to talk of gout-poison, to

hide our diminished heads? The thought positively stung; it was acutely painful. However, after a little time, the smart of the sting went off, and the rhomb of uric acid and the "crab's-eye" of urate of soda were clearly distinct on the mental retina once more.

Well, to revert to the germs of phthisis. Prof. Lister approached, and, feeling that if there is a man on the face of the earth who knows an homicidal germ when he sees it, it is Prof. Lister, I asked him if he thought the organisms were what they were represented to be. His answer assured me, and I felt certain that these lowly objects were the dread enemies of the human race, and no mistake about it. I inquired how we were to poison them, as that seemed the practical way of dealing with the miscreants. That did not seem so clear: still, he held that they were the malevolent agents in phthisis,—“the morbid agents;” that is the correct term for them.

Now, by this time I was feeling decidedly murderous about these tiny assassins; and yet it did not seem at all clear what was to be done about them. A refreshing sensation like that produced by the first rustle of the leaves telling of a coming breeze on a still, thundery summer evening came over me: might not these little homicides, after all, be but the out-comes, not the causes, of tubercular disease? Instead of being the exciting cause of the tissue-change, lymphoid growth, degraded connective tissue, tubercle, or however the neoplasm may be termed, may not these bacilli find in the morbid change a fit breeding-ground, a home to their taste, just as the Solan goose frequents the Bass Rock? The rock which the Covenanters disliked as an uncongenial prison is the haunt of the gannet at breeding-time. So it seemed that tubercle, which we human bipeds dislike so much, may be to these bacilli what the Bass is to the gannet. The bacillus may carry tuberculosis from one human being to another; but if that is his mission there is no doubt that man will soon bring all his ingenuity to bear upon him and frustrate his scheme, if that be possible. Phthisis is regarded as “smittle” (a good old Saxon word covering both “infectious” and “contagious”—see Webster’s Unabridged) by the Italians, and was unknown in the islands of the Australasian groups till white sailors visited them. But is it really this abominable little spore which is at the bottom of it all? Why does he attach himself to certain families more than others, or frequent persons who have been so unfortunate as to sleep in a damp bed, or dwell over a stream, or live on clay, all of which are recognized as being linked with phthisis pulmonalis? A certain configuration of chest is as certainly found with phthisis as another configuration is clear of it. Why the mischief, then, does the malignant bacillus go down the trachea of one person rather than another? On putting the

matter, couched in more formal phrase, to Prof. Lister, he replied, “Why does the phylloxera destroy some vines rather than others?” Here was an opportunity for showing off and parading a scrap of information in my possession: so I replied, “That is known. The phylloxera ravages the grape-vines that have not been recently in the seed. The finest clarets of France are produced from grape-vines which have not been in the seed for hundreds of years, but are grown from cuttings: they have suffered severely. The wild grape-vines of America, which have been in the seed within recent years, suffer little. They possess more resistive power.” The professor smiled, with a look of approbation, and said, “Aha! it is the resistive power: some can resist the bacillus, others cannot.” Now, this was aggravating. There were the kinsfolk of these innocent-looking little bodies trying to murder me and my wife and the few blood relations I have that gout and heart-lesions have left alive. The insidious assassins! getting down one’s air-tubes till they got near enough to the fine blood-vessels, and then wriggling about till their presence excited a cell-growth down about the alveoli, and killing us with tubercle. Something may be done to arrest the formation of uric acid by abstinence in the matter of albuminoids and giving the liver every chance for carrying on the metabolism of the albuminoids that are eaten in a manner proper to a mammalian, instead of producing the uric acid of lower animals with a solid urine, and, if this is insufficient, getting rid of it in a soluble form by potash or lithia. But these bacilli,—one has no protection against them but such as is furnished by that incalculable quantity the “resistive power.” Why, one may be as good as dead any day, if a swarm of these miscreants happen to be drawn in with an inspiration! and how is one to know when myriads of them are about, the invisible moths giving no more indication of their presence than an anchored torpedo, and being quite as destructive, too?

Then what can be the subjective sensations of the shade of Laennec when he hears of this bacillus of tubercle?—when he wrote, “The progress of pathological anatomy has successfully demonstrated that phthisis pulmonalis is owing to the development in the lungs of a particular species of *accidental production*, to which modern anatomists have restricted the name tubercle, a term formerly applied to every kind of preternatural tumor or protuberance;” explaining, “Under the term *accidental production* I comprehend every substance foreign to the natural organization of a part which any aberration in the nutrition may develop in our organs;” and then to think that, after all, it is an errant nomad bacillus that tumbles down one’s wind-pipe, and getting farther and farther till it can get no farther, trying to turn about, and

so exciting the tissues and blood-vessels by its irritant presence that tubercle results,—“miliary,” “crude,” “granular,” and “encysted:”—oh, Laennec! when you made your subtle divisions how did it happen that you so egregiously failed to find “the accidental production” to depend on an organism like a tiny stick, which is the starting-point of it all? You and Rokitsansky disagreeing about miliary tubercle and yellow or bronchial tuberculosis; and Rudolf Virchow with his cells, and his imaginings that tubercle-cells are but modifications of connective-tissue corpuscles; and all the talk there has been about the artificial production of tubercle; and Villemin fooling around infecting guinea-pigs and rabbits which run to tubercle or lymphoid growths—put it as you like—on any kind of provocation, as if on purpose to mislead science, or as if they might have been the incarnation of the *odium theologicum*!—dear me! to think what trouble and labor would have been spared if these men had only been familiar with aniline dyes, and could have suspected that a little methylen blue would have revealed the whole matter to them! Just to think how the spirits of the illustrious men which have already joined the majority will be vexed to think over what they have missed! and then of these other two, with a large retinue or following of other observers that have gone on in their track, in sheer chagrin going over to the majority, too. What would Bismarck say? Why, he would think the storm brewing betwixt Slav and Teuton a trifle if his great liberal opponent, Rudolf Virchow, were removed by a bacillus. Why, Bismarck would wear a breast-pin composed of the bacilli of tubercle, if this end were to be consummated by its means. Dr. Koch, have you fully realized all the outcomes of your discovery,—those that may be calculated and those that cannot? The profoundest political results to your country may flow from its indirect outcomes, as well, more remotely, the destiny of man on the globe. Now that he knows his enemy, who no longer goeth about like a thief in the night, unrecognized, nay, unsuspected, man, the lord of creation, will set to work to discover some toxic agent which will destroy the bacillus without killing the human being which furnishes his habitation. I have read that there will be no peace upon earth till the order of precedence for the wives of under-secretaries in India in entering a drawing-room is definitely settled; but now it is clear that there can be no peace of mind until the specific poison of the bacillus of tubercle has been discovered, and not only that, but also been made available for the wants of man. Until this be done, must we cower in the valley of the shadow of death till the enemy which walketh like a pestilence in darkness shall consume us? And then when it has been discovered, fancy to have to sit

under the protection of a cloud of this toxic agent, just as Prof. Lister operates under the carbolic cloud of his steam spray-producer, and in fear and trembling peer out for the dreaded presence of the bacillus of tubercle, shuddering with chilly fear if one hears the hollow cough of a consumptive in one's waiting-room! Talk of the bitterness of death! it is nothing to the shadowy danger which overhangs us of a tubercle-bacillus getting into one's pulmonary alveoli in an unguarded moment and when one's “resistive power” happens to be impaired. Shadowy in the sense of invisible, not unreal! Is this what is meant by “the doom of a great city”? Is the bacillus a relative of the poison-germ which slew Sennacherib's host in a night? We do not yet know the little creature intimately enough to say. But, really, the horrors which the mind conjures up of the dangers of the bacillus in the future are demoralizing. Suppose, now, that some change of the human constitution should favor the bacillus, just as the potato-field did the Colorado beetle, who had been happily quiet in his dietary of the leaves of the deadly nightshade, but who went on the war-path when the leaves of the other members of the Solanaceæ came within his reach. The imagination fails to conceive what may be the fate of man,—to be slain by a foe more remorseless than any of the plagues of Egypt. Suppose, now, that the bacillus took such a new departure and got ahead of our “resistive power.” Why, man would be swept off the face of the earth! What an ignominious end, too! Man, in the plenitude of his power over the forces of nature, slain by an insignificant little bacillus!

J. MILNER FOTHERGILL.

BOSTON LETTER.

MR. EDITOR,—The friends of the medical education of women at Harvard have just made another attempt to open the doors of the Medical School to the other sex, with a result which, by the terms adopted to convey the information, is made to appear more unanimous and decided than it really was. At a recent meeting of the overseers of Harvard University, the Committee upon the Medical Education of Women presented its report. After a discussion of more than two hours' duration, it was voted—thirteen to twelve (a suggestively close ballot)—that, “in the opinion of this board, it is not advisable for the University to give any assurance or hold out any encouragement that it will undertake the medical education of women by Harvard College in its Medical School.” Of the twenty members of the medical faculty proper, nineteen are decidedly opposed to the admission of women; only one favors it. The final decision is said to rest with the corporation of seven persons, who, it is believed,

will sustain the majority of the overseers and the medical faculty.

This new attempt to graft co-education upon our Medical School was the outcome of a recent offer of sixty thousand dollars to the University conditioned upon the immediate admission of women as medical students. President Eliot, it is said, got the matter well started before it came to the ears of the medical faculty. When that happened, however, the effect was decidedly electric. One member in particular, in a remarkably brief period of time, did an amount of canvassing which was not only characteristic of this gentleman's energy when he does move, but which accomplished a wide margin of results. Among the reasons advanced by the medical faculty for the non-admission of women are—first, that the school was founded and has been sustained for the medical education of men, and that it would be perverted from this purpose if women were admitted; second, that the high standard of education which is now the pride of the school would have to be lowered; third, that the school has but recently adopted the four-years term of study, and hence cannot afford to risk new experiments. In short, the faculty do not wish the admission of women, and if this should ever be forced upon the school, serious harm will undoubtedly result. It is strange that women desire to push themselves into this school. Far more natural would be the wiser course,—viz., solicitation of funds from friends of the movement for the foundation of a school for the separate and thorough medical education of such women as wish to become physicians. This would evince a proper pride and far more dignity than this attempt of women to enter a school which does not desire their presence. It has always seemed to me that there must be some loose joint in the mental machines of men who are willing to study medicine with women. If women wish to study medicine, let them do so, but let it be in their own schools, and when they enter the arena of practice, in the words of Huxley, "let them have a fair field, but let them understand, as the necessary correlative, that they are to have no favor. Let nature alone sit high above the lists, 'rain influence, and judge the prize.' And the result. For our parts, . . . we believe it will be that of other emancipations. Women will find their place, and it will neither be that in which they have been held, nor that to which they aspire. Nature's old Salique law will not be repealed, and no change of dynasty will be effected. The big chests, the massive brains and stout frames of the best men will carry the day whenever it is worth their while to contest the prizes of life with the best women. And the hardship of it is that the very improvement of the women will lessen their chances. Better mothers will bring forth better sons, and the impetus gained by the one sex will be trans-

mitted in the next generation to the other. The most Darwinian of theorists will not venture to propound the doctrine that the physical disabilities under which women have hitherto labored in the struggle for existence with men are likely to be removed by even the most skilfully conducted process of educational selection. In consequence of some domestic difficulties, Sydney Smith is said to have suggested that it would have been good for the human race had the model offered by the hive been followed, and had all the working part of the female community been neutered. Failing any thorough-going reform of this kind, we see nothing for it but the old division of humanity into men potentially or actually fathers and women potentially if not actually mothers. And we fear that so long as this potential motherhood is their lot, women will be heavily weighted in the race for life." In this opinion Huxley refers not only to women who wish to become physicians, but also to those who look towards law and politics.

It probably is true that President Eliot cares little whether women be admitted to the existing medical department of the University or whether they have an independent school of their own, so long as it be under the auspices of the University. He believes that at least half a million of dollars will be necessary to carry on the work, and feels confident that this amount can be obtained without much difficulty. And, notwithstanding the failure of this recent attempt, the matter will hardly be allowed to rest; for the twelve-to-thirteen vote of the overseers indicates a lively interest in the question, and sooner or later we shall see women studying medicine under the shades of Harvard. But may all wise minds hope that this will be in a department specially devoted to women! Co-education in medicine will not be reached without a warm battle.

One year from to-day will probably see the old Medical School in the new building, now in process of construction. Three stories of the structure were erected before cold weather set in, and the work has been resumed. The building stands on a lot bordered by Boylston and Exeter Streets, and is therefore in the very heart of the new portion of the city, and becomes one of the fine and slightly buildings in its vicinity,—viz., Trinity and New Old South Churches, Art Museum, Boston Art Club Building, etc. It will be a handsome, stately structure, occupying a lot of land 264 × 125 feet, itself having a frontage of 123 feet on Boylston Street, 100 feet on Exeter Street, and 131 feet on the rear lane. The remainder of the lot forms towards the east a yard 125 × 100 feet, which will be enclosed by high brick walls and serve for horse-sheds and other convenient out-buildings. The architecture of the building will be a freely-treated style of the Renaissance, with mouldings, lintels, etc., of red sandstone and decorative

panels of terra-cotta. It will have four stories, and a flat roof surrounded by a sky-line of stone balustrades and low gables. Its height will be 77 feet from the sidewalk to balustrade top. The main front will present three pavilions, the central one being slightly depressed. These pavilions are façades of the two main divisions of the building, which enclose an immense staircase in the centre, 41 × 35 feet. The remainder of the central division will be occupied in all the stories by offices and other appendages of the larger rooms of the two lateral divisions. These smaller rooms are half-stories, "mezzanines." The central pavilion will therefore have six stories, the lateral ones only four. More detailed description must be reserved for another occasion. The building, of course, will amply provide every possible convenience, every modern improvement, and every known aid to the course of instruction pursued in the school. The locality is conveniently chosen with reference to the Massachusetts General and City Hospitals, and the Boston Dispensary, at each of which places students receive clinical instruction. The old school building, once thought elegant and commodious, is really dingy and uncomfortably contracted, its situation being in an uncongenial and squalid portion of the city. The public have liberally contributed two hundred and fifty thousand dollars to the new building, and no expense will be spared to render it perfect in every direction. In the third story of the building will be a hall 80 feet long and 34 feet wide in one part and 48 feet in another, which will be devoted to the well-known museum of the school. Galleries will be erected, and the hall will be decorated with portraits, busts, etc. The change will be most agreeable to both teachers and students. At no great distance from the new structure the Children's Hospital is in process of erection. This institution will occupy a lot measuring 31,000 feet. The building will probably cost one hundred and twenty-five thousand dollars, and is required by the growing demands upon the hospital, which was organized thirteen years ago. Through the activity of ladies under the name of the Ladies' Aid Association, the hospital has a Convalescent Home, which naturally is a most useful auxiliary in the restoration of the patients to health.

A "convalescent cottage" at Belmont, a few miles out of the city, has recently been completed, at an expense of one hundred thousand dollars, for the use of the Massachusetts General Hospital. A fund amounting already to more than one hundred and thirty thousand dollars has been accumulated for the purpose of removing the insane department of this hospital from Somerville to its estate in Belmont. It has been wisely suggested that the buildings now in use by the insane at Somerville may be converted into a hospital for incurables, a resort sadly needed

by this as well as by other cities of our country.

The experiment of exacting a nominal fee from all save very poor applicants to the outpatient department of this hospital has been abandoned as unadvisable. In April of last year a person of experience was chosen to examine applicants, in order to learn whether their circumstances entitled them to gratuitous treatment. Of twelve hundred and fifty cases visited, five hundred and forty-five were pronounced undeserving of charitable aid. The committee believe that the general opinion that, whatever the means of the sufferer, sickness entitles him to free advice and treatment, is very dangerous, inasmuch as its tendency is "to impair the spirit of providence and self-dependence so essential to good citizenship, and that the aim of the investigation of cases now in force should be rather to prevent than detect improper applications for treatment." The intention, therefore, is to do whatever is possible "to check a tendency which is believed to have assumed the proportions of a great evil."

The division of the Suffolk District Society into Sections has proved a successful incentive to greater activity. The former monthly meetings of this branch of our State Society had become rather sleepy, and, moreover, considerably mixed as to subjects. The present secretary, Dr. H. C. Haven, suggested the Section arrangement. It was carried into effect, and the Sections thus far in action—viz., of Surgery, of Clinical Medicine and Pathology, of Ophthalmology, and of Materia Medica and Chemistry—are doing good and useful work. Indeed, the Section for Clinical Medicine has been obliged to increase the number of its meetings in order to work off the papers which are waiting their turn. In short, this method arouses and holds the interest of members. The favorite Section is chosen, and those who attend its meetings are entertained by topics of direct interest, whereas at the former general meetings the papers were so diverse in subject that many of them were of interest to few only. The result is that more active discussion is aroused, and more good, helpful work is done by the Sections of one season than would be accomplished by two seasons of the heretofore eclectic programmes of the meetings of the whole District Society. These general gatherings are still called, but are far less attractive than the earnest, active sessions of the Sections. The change is wise and beneficial.

A portrait in oil of the late Dr. Thomas B. Curtis, and formerly President of the Society for Medical Improvement, was unveiled last night at the final meeting of the Society for this season. The likeness is excellent, and the portrait will be highly valued.

In closing, let me relate a story which I recently came across in a very old book,—a story which I am sure will convince you, as it did

me, not only that the diagnosis of hysteria is not a development of recent date, but that shrewd means of treating this affection are not confined to our day. A beautiful and favorite slave of the Caliph Haroun-al-Raschid happening to yawn, one of her arms suddenly stiffened. The whole seraglio was thrown into consternation. Physicians embrocated the limb with relaxing liniments and fumigated it with fragrant antispasmodic gums; but nothing availed. The eunuchs groaned; the women were in floods of tears; the Caliph became absorbed in grief. In the midst of this distress, the Grand Vizier, having been cured of some secret indisposition by Gabriel Bachtishna, extolled his wonderful skill to the Caliph. In a moment the captain of the guard was despatched for the unknown physician. Gabriel having arrived, the melancholy and extraordinary case was described to him. After a few moments spent in silent reflection, he said, "Commander of the Faithful, I have found a remedy!" "What?" cried the Caliph. "Let the young lady be brought here, and I request a promise that you will not be offended while, before all this presence, I do what I consider requisite for her cure." The Caliph assented. The afflicted girl was introduced, having only a fine piece of flowered muslin negligently thrown about her. She was rendered more interesting by her raised arm having fixed itself in a graceful attitude. As soon as she entered, Gabriel boldly advanced, stooped, and grasped the fringe of her train as if resolved to lift it. The lady, confused and crimsoned, instinctively brought down her arm to preserve the propriety of her dress and to hinder the threatened indignity,—upon which Gabriel exclaimed, "O Commander of the Faithful, she is cured!" All present were amazed, and the Caliph was so transported that he ordered five hundred thousand pieces of money to be paid instantly to the fortunate physician. H. O.

Boston, May 10, 1882.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MARCH 9, 1882.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Cirrhosis of liver. Exhibited by Dr. NEFF.

THERE was no history accompanying this specimen, Dr. NEFF said, beyond that it had been removed from the body of an elderly inebriate. What had induced him to present it was the peculiar appearance presented of bright-yellow elevated spots, produced, as suggested by Dr. Seiler, by the pressure of congestion forcing out the fattily-degenerated cells of the organ. There was also stenosis

of the aortic orifice, with some thickening of the mitral valves.

Dr. TYSON remarked on the peculiarity of the changes in the heart,—viz., the extent of the stenosis of the aortic orifice, as such change is usually more extensive at the mitral orifice.

Fibroid polypus of the nose involving the antrum.

A. L., a farmer, æt. 68, was sent to me by Dr. Woodward, of West Chester, early in December of last year, for operation. I examined the patient, and found the left nostril completely closed by a hard, lobulated mass. The left cheek-bone was very prominent, and the left eye was pushed out of the orbit so as to be exceedingly prominent. In passing my finger over the outer wall of the antrum, I discovered a triangular opening in the bone, through which a soft mass was protruding. The affected eye was constantly weeping, and the patient complained of severe neuralgic pain in the left side of his face. He stated that he had noticed several years back that his nose was stopped up, and the pain in the face had made its appearance about six months since. With the wire snare I removed several pieces of the growth from the nostril, and on examination found them to consist of fibrous tissue. The diagnosis of fibroid polypus involving the antrum was then made, and the patient referred to Dr. J. Ashhurst, Jr., for operation.

A few days later, the patient was operated upon in the clinic at the University Hospital, and this large mass of fibroid polypus was removed. During the operation it was found that the anterior wall of the antrum as well as the orbital plate had been almost entirely absorbed, and the turbinated bones on that side of the nasal cavity had disappeared. The hemorrhage was very profuse, and the patient died an hour after the operation was finished.

Dr. BARTON had seen several similar cases, but they had all proved to be malignant. He would therefore suggest the propriety of making sections of the whole growth, when portions might then be seen which would be of a malignant nature.

Dr. SEILER thought that the cases described by Dr. Barton were not true fibromata, but *fibrous polypi*, in which were found invaginated mucous membrane, angiomaticous tissue normal to the inferior turbinated bones, etc. Nasal fibromata are usually single, unlike ordinary polypi. The former usually *press* the septum to one side, while they induce *erosion* of the superior maxilla.

Dr. TYSON could corroborate the last portion of Dr. Seiler's remarks from personal observation.

Carcinoma of bladder and uterus. Exhibited by Dr. J. M. BARTON.

No written history accompanied this case, owing to the patient having unexpectedly

expired the night previous. There had been nothing of special interest in the case before death, but the extremely sudden and unexplainable death induced the exhibitor to present the specimens.

Dr. TYSON hazarded the suggestion that in such a chronic case latent kidney-trouble might have escaped detection, which the mode of death described by Dr. Barton was somewhat suggestive of.

Dr. NEFF had seen this winter a similarly sudden and inexplicable death in a case of uterine cancer, preceded by sudden headache, convulsions, etc., which ended fatally in twelve hours. No post-mortem examination could be obtained, but repeated examinations of the urine revealed nothing abnormal.

Dr. TYSON referred to the theory of cerebral anæmia as a supposed cause of convulsions.

THURSDAY EVENING, MARCH 31, 1882.

VICE-PRESIDENT J. SOLIS COHEN in the chair.

Severe valvular lesion of the heart, complicated by acute intra-pleuro-pericarditis, with abundant serous effusion and peritonitis. Reported by Dr. J. T. ESKRIDGE.

J. B., æt. 22, German, working the last six months in a sugar refinery, was admitted to St. Mary's Hospital January 25 of the present year. His occupation had always been such as exposed him to the vicissitudes of the weather, but he had enjoyed what he considered perfect health until two years ago, when he suffered from pains in his knees and ankle-joints, but at this time his ailment was not sufficient to confine him to the house. Two and a half months before his admission into the hospital, weakness and pain in the region of the heart compelled him to cease work. He was anæmic, and his expression was that of anxiety. His temperature was 100°; pulse, 96, jerking and receding; respirations, 20 per minute. His urine was acid, scanty, and high-colored, but free from albumen. His lungs were apparently healthy, and his appetite fair. The principal and nearly the only thing complained of was pain in the left breast, which often extended to the shoulder and arm of the corresponding side.

The impulse of the heart was strong and forcible. The apex-beat could be felt in the sixth and seventh interspaces on a vertical line drawn midway between the left nipple and anterior border of the left axilla. Two murmurs, with their seats of intensity at or near the aortic orifice, could be heard. One occurred with the systole and the other with the diastole of the heart. The other orifices of the heart were, so far as I could determine, free from disease. Until February 1, nearly a week after my first examination, he seemed

to be improving under treatment, and at this time suffered but little from his heart-trouble.

February 2 he complained of slight pain and an oppressed feeling in the region of the heart. I found that the area of dulness extended about one inch below the apex of the heart, whose impulse could now be felt in the fifth interspace. The dulness was pyramidal in shape, and extended to the right of the right border of the sternum. Over the breast-bone, on a line with the third costal cartilage, a to-and-fro friction-fremitus, synchronous with the heart's action, was heard. By firm pressure with the stethoscope its intensity could be increased at will. The friction-sound did not seem to be connected with respiration, and whether or not it was loudest during a full inspiration was not observed. At all events, a pericarditis with effusion was diagnosed. Moreover, at this examination a mitral murmur could be distinctly heard in the left axilla, and faintly posteriorly at the lower angle of the left scapula. The pleuræ and lungs were examined, but no further trouble was detected.

It is but proper to state here that I did not see the patient any more during life, and that to Dr. Strittmatter, who carefully watched and cared for him, I am indebted for the remaining notes of his clinical history.

Feb. 3.—Blistering, alkalies, and moderate doses of anodynes had failed to relieve the pain and distress in the cardiac region. By night the patient's suffering had greatly increased.

Feb. 4.—He was seized with intense lancinating pain in the region of the heart, in each side of the chest, and in the abdomen. The respirations soon became hurried, short, and gasping. His countenance had a pinched expression, his face was pale, and his body bathed in perspiration. Dry cups and blisters gave but little relief. Morphia and atropia were administered hypodermically. Slight improvement then seemed to take place, and he slept about half an hour. He made no improvement during the night, and about ten o'clock on the morning of February 5, while being turned on the left side for a few minutes for the purpose of giving an enema, he gasped for breath, screamed, and fell back pulseless, respiration continuing about one minute after the pulse had ceased, during which time no heart-sounds could be heard.

Autopsy.—The examination was made about twenty-four hours after death, by Dr. Strittmatter and myself, and was restricted to the chest and abdomen.

Chest.—The right pleural cavity was distended to its utmost with a serous effusion. Adhesions binding the right pleura to the pericardium and anterior portion of the chest were found. Only a trace of lymph was present in the effusion. The right lung was pushed upward and backward, and its lower lobe was in the second stage of pneumonia. The left

pleura was adherent to the pericardium and the lower antero-lateral portions of the chest. Only a few ounces of serous effusion were in the pleural cavity of the left side. The left lung was intensely congested, but not inflamed.

The external surface of the pericardium was adherent to everything that lies in contact with it. Its surface was covered with lymph, and its blood-vessels were prominently engorged. The visceral layer of the sac showed no evidences of inflammation, but several ounces of serous effusion were found in the pericardium. The heart was very much enlarged, the increase in size being due principally to enlargement of the left ventricle, which was found to be dilated and hypertrophied. All the valves, save those at the aortic orifice, were in an apparently normal condition. The aortic orifice was constricted by ossification and thickening of all its valvlets, thus giving rise to the systolic murmur. Bony vegetations half an inch long, attached to the apex of one of the valvlets, played to and fro with the current of blood, allowed regurgitation to take place, and added intensity and roughness to both murmurs. No evidence of recent endocarditis was detected. The thoracic aorta was in a good condition. No cause beyond a dilatation of the left ventricle was found for the systolic murmur heard at the mitral orifice.

Abdomen.—Abundant evidences of peritonitis were found in the posterior portion of the abdominal cavity, where considerable serum and lymph were present, and numerous adhesions had taken place. The layers of peritoneum anterior to the bowels were nearly normal in appearance.

The kidneys were intensely red and apparently contracted. The remaining organs were apparently not implicated in the inflammatory process.

To sum up the pathological condition.—The left ventricle of the heart was dilated and hypertrophied; the aortic orifice was roughened and constricted, and its valves, the seat of bony vegetations, were insufficient; the external surface of the pericardium was the seat of old and recent inflammation, and the sac was intimately adherent to the adjacent structures and contained several ounces of fluid; both pleuræ were adherent and contained abnormal quantities of fluid, the right being filled; both lungs were congested, and the lower lobe of the right was inflamed; there was peritonitis with its products; and the kidneys were contracted and congested.

Remarks.—The history of the joint-affection, as well as the condition of the urine in his last illness, points to rheumatism as the origin and nature of his trouble. It is instructive to observe the extensive heart-lesion, which probably began years ago, when he had so mild an attack of rheumatism of the joints that he was not kept in-doors. This

case, with the numerous ones which have preceded it, should impress upon us the importance of a thorough examination of the heart in every one suffering from this disease. The cardiac disease, as shown by the valvular ossification and the subsequent ventricular hypertrophy, was not of recent date. The cirrhotic condition of the kidneys followed the diseased state of the heart, rather than acted as a cause of the latter, which is probably more commonly the case. Can any one doubt that the healthy action of the heart would have been less impaired had the cardiac disease been detected during the first appearance of rheumatism and the patient confined strictly to bed? Much of the inflammation around the heart dated back at least two and a half months prior to his admission into the hospital, and was the cause of his distress at that time, which compelled him to stop work. Peritonitis is referred to by most authors on the practice of medicine as being one of the rarest of the internal complications of rheumatism. Dr. Flint, with a ripe experience, has met with only two cases. So diffuse an inflammation of the internal organs as here represented, associated with rheumatism, or more probably of a rheumatic origin, must indeed be exceedingly rare. I cannot find a similar case in the published transactions of this Society.

A few words in regard to the diagnosis at the time I last saw him. At that time there were no evidences of pleurisy, but there were undoubted signs of pericardial effusion, the presence of which the post-mortem examination verified. Further, a double friction-murmur, more or less creaking in character, having an intensity that could be decidedly increased by firm pressure with the stethoscope, was heard over the base of the heart, above the seat of the effusion. No adventitious sounds were heard over any other portion of the chest except the præcordial region, save those of an endocardial origin. In the absence of all symptoms and physical signs of pneumonia and pleurisy, and with the presence of endocardial trouble and signs of pericardial disease, as evinced by a limited to-and-fro friction-fremitus associated with effusion in the pericardium, I felt that I could not doubt the presence of a pericarditis; yet the autopsy showed that there was no pericarditis proper. One resource in the physical diagnosis of pericarditis I omitted to employ, as I felt sure that a diagnosis in this case was easy. The point I refer to is the relation of the friction-sound to respiration. Intra-pleuro-pericardial friction-murmurs should be most distinct during inspiration, and become diminished or absent during expiration. In this patient two friction-sounds were heard with every cardiac beat, regardless of the respiratory act. Whether or not the fremitus was more distinct during inspiration than during expiration I am unable to say, as I considered the

diagnosis of pericarditis so certain that I did not endeavor to differentiate the supposed disease from that which most nearly resembles it. My error in this instance teaches me that all methods (no matter how unimportant they may appear) available in making a diagnosis of obscure diseases should be employed. They will at least corroborate more certain means.

When the man was first admitted, his temperature (100° F.) was about what we should expect to find in a slow form of inflammation. Such an inflammatory process was undoubtedly going on around the heart; but, as the hypertrophied condition of the heart showed the valvular trouble to be an old one, as there were no physical evidences of pleural or pericardial trouble, and as he apparently improved under treatment, and persisted in going about the wards of the hospital, the recumbent posture was not insisted upon. In the light of the autopsy, it seems probable that if he had been kept in bed during treatment acute inflammatory symptoms would have been less likely to result. In a person suffering from valvular lesion of the heart, especially when the cardiac trouble has a rheumatic origin, a temperature persisting above the norm and associated with oppression or uneasy feelings around the heart will in the future be a sufficient indication for me to enjoin absolute rest in bed for my patient, unless there exist sufficient rheumatic joint-trouble to account for the slight elevation of the body-heat.

Finally, I consider myself fortunate that I did not see the man during the last twenty-four hours of his life, when intense dyspnoea was the paramount symptom. Having made a previous diagnosis of pericarditis with effusion, there being no pleurisy, had I seen him gasping for breath the first impulse would have been to relieve his sufferings by aspirating the pericardium without further examination of the chest. With great enlargement of the left ventricle, a completely distended right pleura pushing the heart well over to the left side, and effusion in the left pleura pressing the pericardium, which contained only a few ounces (probably five or six) of fluid, in close contact with the heart, a plunge of the trocar could scarcely have relieved the pericardium without piercing the heart. It is not likely that any amount of surgical interference would have saved life in this case, but, had the true condition been recognized, tapping the right pleural cavity would have been the proper procedure. I have discussed this point at some length, because the fact is here illustrated that there are cases of sudden and impending dyspnoea associated with pericardial effusion, for the relief of which a surgical operation based on a diagnosis made only a few hours before would be liable to be followed by results of the gravest character.

Specimens from a case of typhoid fever; non-typhoid ulcer; congenital stricture of colon; gastritis. Presented by Dr. J. H. MUSSER.

I am indebted to Dr. Judd for the opportunity of exhibiting these specimens. I am not familiar with the clinical details of the case. The patient was a middle-aged man, a good liver, a victim of malaria for some years. Throughout the course of the fever he suffered from gastritis, with pain in the epigastrium, great thirst, and obstinate vomiting. As early as the twelfth day he had a hemorrhage. The bowels were constipated, to relieve which an enema was ordered. After about a pint of the fluid was injected, the patient complained of such very severe pain in the left inguinal region that its administration had to be stopped. Death took place from exhaustion on the thirtieth day. Otherwise the course was typical.

By Dr. Judd's request, I made the post-mortem, eighteen hours after death. The body was not much emaciated; rigor mortis was marked. All the organs occupied their normal relations. The heart was soft and flabby, and filled with ante- and post-mortem clots. The lungs were congested posteriorly. The liver was enlarged, congested, and of a mahogany color. The spleen was enlarged, dark red, and soft. The mucous membrane of the stomach was intensely congested, especially towards the pylorus; there were numerous ecchymoses, and some slight hemorrhages. In the small intestines Peyer's patches were enlarged, but only a few of them ulcerated. About the middle of the ileum there was a round, punched-out ulcer, one-fourth inch in diameter, not connected with any gland, with a small clot of blood in the bottom of it, and which evidently was the source of the early hemorrhage. This ulcer was unlike any belonging to typhoid lesions, and was in existence prior to the disease. In the sigmoid flexure there was a marked congenital stricture of the gut, the lumen of which at this point only admitted my forefinger. The constriction was an inch long. The wall of that portion was four times as thick as the walls of the colon are; it was opaque and lined with mucous membrane. The enemata were evidently obstructed at this point, and hence the pain. I am unable to note the action of the bowels in health.

Dr. J. H. PACKARD discussed the case, and quoted one published in the Transactions of the Pathological Society for 1873.

Dr. ESKRIDGE asked Dr. Packard whether in his experience brain-symptoms were common in cases of typhoid fever occurring in childhood.

Dr. PACKARD replied that he had usually found the brain-symptoms well marked.

Chronic follicular enteritis and colitis. By Dr. J. H. MUSSER.

W. L., æt. 18 months, family history good, hygienic surroundings good. Under care of

Dr. Judd, to whom I am indebted for the clinical notes. July and August of 1881, he had enterocolitis, followed by a marasmic state, from which he was not restored until November. During the winter he thrived well and became quite stout, although his bowels were always irregular, constipation alternating with attacks of diarrhoea. About nine days before death he had a fall, striking his head. Six days before death he had a convulsion, repeated in a few hours. The next day an acute enterocolitis set in, with the especial symptoms of tenesmus and frequent, small, bloody, and shining stools, with fever, but without pain or abdominal tenderness. There was not much exhaustion, and death took place in a convulsion; convulsions recurred and stupor began two days before death.

I made the post-mortem for Dr. Judd twenty-four hours after death. The abdominal organs alone were examined. The body was well nourished, and rigor mortis well marked. The omentum had a normal amount of fat about it. The mesenteric and lumbar lymphatic glands were very much enlarged. The peritoneum was healthy. The mucous membrane of the stomach was congested, and near the cardiac end there was a large area of superficial erosion, evidently due to post-mortem digestion. Numerous patches of redness were seen on the peritoneal surface. The mucous membrane of the small intestine was congested at innumerable points, with some ecchymoses. It was softened. Peyer's patches and the solitary glands were enlarged. The solitary glands were very distinct, many projecting from the surface of the mucous membrane; their orifices were enlarged and swollen, and distinguished by a black point in the dull-white colored gland. The patches were red, soft, thickened, and swollen, and appeared as if ulcerated. In the large intestine, the mucous and sub-mucous coats were thickened and indurated; portions were congested, while other parts were very oedematous, and of an ashen-gray hue; the glands were much enlarged, and readily showed underminings of their edges, due to an ulcerative process, by the insertion of a small probe into their orifice.

The short duration of the illness, and the absence of any symptom or symptoms of enterocolitis sufficiently severe to cause death, lead me to infer that death took place from some cerebral trouble. There were no distinct symptoms of meningitis, acute or tubercular; but the fall, the convulsions, the recurrence of convulsion, etc., after the slight exhaustion from the bowel-complaint, seem to confirm such an idea, and in all probability death was caused by a clot or effusion. It is unfortunate that the brain could not be examined.

There is no doubt in my mind that some of the lesions existed since the acute disease the previous summer, notably the changes in the

glands. I think it can be set down as a case of chronic disease becoming acute, and that there were present lesions common to both.

[Dr. NEFF presented a specimen of multiple ecchymoses of the lungs and heart, the notes of which will be published in a future number of the *Times*.]

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the Hall of the College of Physicians, Philadelphia, February 8, 1882. Dr. Horace Y. Evans, President of the Society, in the chair. Dr. Charles H. Burnett read a paper on "Aural Vertigo" (see page 585).

DISCUSSION ON DR. BURNETT'S PAPER.

Dr. Mills said that the paper reminded him of several cases which established the correctness of Dr. Burnett's views. In one case a small tumor of the median lobe of the cerebellum had caused slight pressure on the floor of the fourth ventricle. In this case pronounced vertigo existed, with tendency to go to the left. In a second case he had diagnosed tumor of the middle cerebellar peduncle. The patient had a tendency to go to one side, and had one-sided anaesthesia. On post-mortem no tumor was found, and no softening, but apparent atrophy of one side of the cerebellum. A third case was now at the Pennsylvania Training-School for Feeble-Minded Children. The patient, a boy, aged eight or ten years, has a peculiar vertigo, or rather tendency to whirl from left to right. The rotation could easily be produced by taking the boy by the hand or by the ear, or in any other way giving him a start. The rotation might continue for ten or fifteen minutes or longer, until one would think he would be quite worn out. He has a constant tendency to this rotation when on his feet, and it is probably due to disease of the bones of the internal ear.

Dr. Burnett referred to a case he had seen at the Pennsylvania Hospital (alluded to in the paper). It was the most remarkable he had ever witnessed. The patient, a woman, had distressing vertigo and deafness, but no particular tendency to turn to either side; she tended rather to fall forward. After death a tumor was found on each auditory nerve, and the labyrinth on both sides was invaded by the disease. Dr. Mills's case reminded him of one reported by Ehrhardt, of Berlin. In this patient, a boy, vertigo, reeling, falling, nausea, and vomiting could be produced by causing him to smell ether, which would so irritate the mucous lining of the naso-pharynx that the mouth of the Eustachian tube would be suddenly closed and a vacuum rapidly formed in the middle ear. This would produce retraction of the drum-head, with its at-

tendant conditions of pressure upon the labyrinth-water, irritation of the cerebellum, and vertigo, as set forth in the paper.

That these aural-cerebral manifestations were due to the physical effects of closure of the Eustachian tube was shown by their instantaneous disappearance upon opening the tube by means of inflation, either by the air-bag or the Eustachian catheter. In the case of the boy who presented peculiar rotatory movements, as mentioned by Dr. Mills, Dr. Burnett suggested that it would be well to examine the naso-pharynx.

NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, MAY 18, 1882.

DR. FORDYCE BARKER, President, in the chair.

RESOLUTIONS, framed by Dr. Van Buren, in honor of the late James Rushmore Wood, M.D., LL.D., were read and unanimously adopted. Appropriate remarks were made by Drs. SAYRE, WILLARD PARKER, DETMOLD, and the President.

REMARKS ON LITHOTRITY, WITH EVACUATION, ILLUSTRATED BY SPECIMENS, BY HENRY J. BIGELOW, M.D., OF BOSTON.

The speaker began his remarks by saying that the subject was an old one. It was purely surgical, and, one might say at the present time, almost purely mechanical; but since the improved mechanics of the subject had made lithotrity what it was, putting it on a substantial and useful basis in surgery, a somewhat detailed account of the successive steps towards bringing it to its present degree of perfection might be of interest to the members of the Academy, some of whom had given the operation material aid in gaining recognition in surgery. The whole of the subject had to do with the breaking of the stone in the bladder and getting it out through the urethra, and in doing the latter we had to deal with air, water, and solid material. Various kinds of instruments had been found effectual in breaking the stone, some more so than others, though the choice of these depended not a little upon the personal preferences of the operator. When Civiale first performed lithotrity he occupied from twenty to thirty minutes, and the bladder was found very tolerant of these manipulations; but by improved instruments and increased skill he reduced the time to a few minutes, and at present the usual length of a sitting was not more than three or four minutes. When at first these long sittings were followed by any bad results, it was due rather to non-removal of the crushed stone from the bladder than to the length of the sitting. A method of evacuating the bladder was early invented. Clover's evacuator would have been more effectual had it acted with greater suction-

force and had attached to it a large catheter such as was used at the present time. It had not a receptacle for the evacuated detritus, a considerable part of which was returned to the bladder with the water. Dr. Bigelow then described the kind of catheter which he preferred, which was straight, with an opening near or even occupying a part of the distal end, its long diameter not greater than the diameter of the calibre of the catheter, lest a portion of stone too large to pass through the catheter should engage within it and possibly lacerate the urethra during withdrawal of the instrument. He then traced the successive steps in seeking to perfect an instrument by which the detritus, as it was evacuated from the bladder, should be prevented from returning with each successive injection of the fluid. First a simple strainer was incorporated with the evacuator, then a receptacle joined to the rubber bulb, into which the detritus might fall, this also going through various modifications, and even yet a part of the detritus would be returned with the water. Weiss's instrument was unsatisfactory in this regard. The instrument which he had gradually settled down upon consisted of the large straight catheter, of a bulb, of an attached receptacle,—a tube projecting from the attached catheter into the bulb a sufficient distance, and perforated on the sides to act as a strainer, preventing the return of detritus, except the few particles which might find their way back through the terminal opening,—of two stop-cocks, and of a piece of tubing or hose. It might be supported by a stand if desired. By this instrument the air could be evacuated in a moment; through the hose the amount of water within the bladder could be increased or decreased at pleasure and immediately,—an important point in case of vomiting under ether, etc.; with this arrangement of the sieve and receptacle practically scarcely any of the detritus was returned. As to the lithotrite used in crushing the stone, that one was most effectual and allowed of the least rolling or slipping of the stone whose curve approached nearest a right angle, and it should be as nearly so constructed as was consistent with its introduction through the urethra. The handle should be of such a form as was easiest of motion by the hand of the operator. He showed an instrument which he considered most convenient for beginners and also for the experienced surgeon.

DISCUSSION.

Dr. E. L. KEYES said that the fact that the operation of lithotrity with evacuation had been but a few years ago condemned by an eminent body of surgeons, now to be almost everywhere recognized and most successfully practised, was the highest compliment which could be paid to the labors of Dr. Bigelow in this direction during the past few years. He referred to the fact of great tolerance on the

part of the bladder, and that almost any kind of instrument might be used with success in crushing the stone; but since one time having employed an instrument said to be least liable to clogging, but which nevertheless did clog and caused laceration of the urethra on withdrawing the instrument, he was now always very careful to guard against the possibility of a recurrence of the accident. He thought the straight tube delivered the detritus better than the curved, and it might be passed as easily in the young subject; but in certain cases in the aged he employed the curved one, because more easily passed through the less elastic parts. The great advantage of this instrument for the diagnosis of the presence of small stone was sufficient in itself to make it of great service to the surgeon and to reflect credit upon its inventor.

Dr. R. F. WEIR thought this aspirator the best which had been invented, and one for which we were much indebted to the speaker of the evening. The bladder in old men, usually, was much more tolerant than in the middle-aged or young subject. He believed it to be much more tolerant to introductions of the lithotrite than to violent aspiration. There were certain cases in which it was better to make a number of short sittings than one prolonged one, as in certain kidney-troubles, etc. A number of seizures of the stone—twenty, or even more—might be made in half a minute. It was shown by statistics, however, that out of a large number of cases the operation was completed at a single sitting, the stone, too, being of considerable size, thus showing the great tolerance of the bladder. He thought the fragments remaining in the bladder did less harm than was believed, for within so short a time as ten or twelve hours they became coated over with tenacious mucus, which rendered their expulsion easier—less painful—than if they were expelled at once from the unprotected urethra. Therefore he was firmly convinced that aspiration should be restricted to those cases in which the bladder was not capable of expelling the detritus; that whenever it was able to expel the detritus, if this was not too abundant, it should be allowed to do so. He had never had an accident follow it. It mattered little, in his opinion, as to what kind of instrument was used in crushing the stone; it might be reintroduced a number of times, if necessary, without injury, the bladder being tolerant. But he believed lithotripsy could not be made to take the place of the cutting operation in all cases; in some instances one method was indicated, in others another. Only recently he performed bilateral lithotomy, feeling confident that no other method was as appropriate in that particular case.

Dr. F. N. OTIS would express his personal appreciation of the value of the instrument presented before us. In the great majority of cases of vesical calculus which came before

the surgeon this was the operation indicated. A great deal had been said about the tolerance of the bladder. He considered that a well-established fact, and it needed little comment; but the urethra seemed to be almost entirely forgotten. In his opinion the great danger in this operation related to injury of the urethra. Injury might be done to this at constricted points, and before the operation was begun it should be determined what was the proper size of this canal, and then divide any constricted portions to a degree corresponding with the size of the rest of the canal. It would be an advantage if the surgeon, before performing this operation, could always have that frequent experience which makes perfect in all things.

The subject was further discussed by Drs. SANDS, SAYRE, PARKER, and (in closing) by Dr. BIGELOW, who showed the detritus of the largest stone he had ever removed in this manner, weighing 1380 grains.

A vote of thanks was tendered Dr. BIGELOW for his interesting remarks, after which the Academy adjourned.

GLEANINGS FROM EXCHANGES.

NEW METHOD OF ESTIMATING URIC ACID IN THE URINE.—In the *British Medical Journal* for April 15 Dr. E. A. Cook, after referring to the unsatisfactory character of the hydrochloric acid test, and the acknowledged want of accuracy of Pavy's new method with the copper solution, recommends the following original method:

"Take 300 or 400 cc. of the urine and add a few drops of strong solution of caustic soda, enough to render it decidedly alkaline; allow the precipitate of phosphates to subside, and pour off 100 cc. of the clear solution; add to this clear solution about 4 cc. of a solution of zinc sulphate, 1 in 3 strength. The solution of zinc sulphate renders blue litmus red, and it must be added to the urine until a drop of the mixture on blue litmus gives a slightly red circle. If the solution be too acid, a drop or two of caustic solution will render it neutral. The precipitate is thrown on a filter, and washed with a saturated solution of zinc urate. (This solution is made by adding a little zinc sulphate to distilled water, and then adding urate of soda until a permanent precipitate remains; this is allowed to subside, and the solution is used for washing until all the urea and ammonia are removed.) The drained precipitate is folded in the filter, and placed, with 50 cc. of hypobromite of sodium of full strength, in a urea estimation apparatus, and agitated carefully. The gas evolved will be an indication of the amount of uric acid present in 100 cc. of the urine. The evolution of gas does not commence immediately, and there is sufficient time to insert the stopper

and note the number at which the water stands in the gas-tube. If a reaction begins immediately, the precipitate has not been sufficiently washed. The reaction is complete at the end of half an hour, without the application of heat. On many occasions, when the urine precipitate was mixed with the hypobromite, a blue color appeared, and again disappeared, and at first this was supposed to be due to a substance other than uric acid; but, in repeated experiments with urate of zinc, made with pure white crystals of uric acid, the same blue color was observed. This blue is not indigo. A quantity of pure urate of soda was precipitated with zinc sulphate, and washed; the precipitate mixed with distilled water, and hypobromite of sodium added drop by drop; the color appeared, and deepened to a dark blue. Tartaric acid was then added, when the color disappeared, and would not return when the solution was rendered alkaline; nor on further addition of hypobromite. The zinc precipitate can be dissolved in caustic soda solution, diluted, and used with boiling Fehling's solution in the manner proposed by Pavy.

"Effect of the Presence of Ammoniacal Salts on the Precipitate.—Ten cc. of the standard solution of urate of soda were added to 90 cc. of water, and 1 grain of ammonium chloride added. The mixture was then precipitated as usual with zinc sulphate, filtered, washed, and placed in the urea apparatus; the gas yielded equalled 8 cc., indicating that the presence of ammoniacal salts is not detrimental, as the whole of the ammonia can be removed by washing.

"Hippurate of zinc is soluble in water, and the other nitrogenous constituents of urine, if precipitated with the uric acid, are in too small amounts to sensibly affect the result.

"With a filter pump, the precipitation, and washing, and evolution of gas, may all be completed in one and a half hours; and, of course, several experiments may proceed at one time.

"Although this process will not give a mathematically accurate estimation of uric acid, it is one which, with ordinary care, will give very approximate results; and although it may be urged that the solubility of zinc urate may be greater in urine than in water, yet the results of a number of experiments will always be comparable with each other. It may be possible that, under special circumstances, other substances may be precipitated, and may interfere with the estimation, yet in normal urine the sources of error are small, and a series of estimations have given very interesting results; moreover, there are many drugs which will not themselves affect the composition of the precipitate, and therefore are no bar to accuracy."

RECOVERY FROM PSEUDO-HYPERTROPHIC PARALYSIS (?).—Dr. Donkin reports the case of a child six years old, who exhibited the

ordinary characteristic features of pseudo-hypertrophic paralysis,—weakness, disinclination to active exertion, inability to walk or run fast, falling about, while at the same time the mother had noticed that his calves and buttocks seemed larger than before. Dr. Donkin says,—

"The boy stood with his legs wide apart, straddled and swung from side to side as he slowly walked, fell down on attempting to walk quickly, and was unable to raise himself from the sitting posture without pressing on one of his knees and previously turning round and sitting on all-fours. There was protrusion of the abdomen, and a noteworthy degree of lordosis. On stripping him, it was obvious that his calves and buttocks were remarkably large for a boy of his size. The skin, especially over the lower part of the body, was markedly mottled; and, after repeated trials, I failed to elicit the knee-jerk, except perhaps very slightly in the left leg. Knowing, however, how erroneous it often is to attach any value to the absence of this latter phenomenon in children, and the general want of knowledge about the importance of this symptom at all, I mention it only because, on the recovery of the boy, which is the excuse for this record, the knee-jerk was elicited in both legs with as much ease as could be expected in the case of a rather excitable child. There was not any obvious enlargement of the muscles of the upper extremity. But I was able on that day to make but an imperfect examination, and unfortunately postponed both the measurement of the girth of his calves and all further methods of inquiry. Owing to an unavoidable absence, I did not see the case again till January 7, more than six weeks after the first visit. Then, to my surprise, beyond some waddling in walking, I noticed no symptoms of loss of power. The boy could run with ease, and raise himself from the ground in the ordinary manner, even without placing his hands on the floor. The calves still appeared to me to be somewhat large; but the mother, again spontaneously, observed that both the calves and buttocks had 'got quite small again.' There was no mottling of skin. On the 14th I saw him again. He still waddled slightly in walking; and I again failed, as I had also on the 7th, to produce any knee-jerk after careful trial. The mother believed the child to be now quite well. On the 21st I could detect nothing abnormal about the child or his movements, with the exception of the knee-jerk symptom. I saw him again on February 10, when I did not examine him, and, for the last time, on March 11, when I found the appearance of the body normal; the gait in no way altered; running performed with perfect ease; and the knee-jerk produced with tolerable readiness."

The treatment ordered had been complete rest, and a bitter tonic (mixture of iron and nux

vomica). Even if this should not be accepted as a typical case of the disease in question, it will serve to point to the fact that cases may occur in which temporary affections of the nerve-cells may exist, giving rise to transient symptoms simulating pseudo-hypertrophic paralysis. To whatever the symptoms may be due, it would seem that *rest* must be reasonably credited with their disappearance.—*British Medical Journal*, April 15.

THE BACILLUS LEPRÆ (?).—Dr. H. D. Schmidt, of New Orleans, at the last meeting of the State Microscopical Society of Illinois, read a paper entitled "Is the Bacillus Lepræ a Reality or a Fiction?" in which he reviews some of the more recent literature of the subject, and reports the result of the examination of the tissues of three typical cases of lepra. Pursuing the most approved plan (of staining with methyl-violet, etc.), he was unable to detect anything like a characteristic microbe, but encountered a few micrococcus-zoöglea, and some fungus-filaments, which had evidently become accidentally introduced into the section during its preparation, as they were only on the surface: it was especially noted that the protoplasm of the cells of the skin was not invaded. Not a trace of any bacillus form could be discovered. In the cases reported by Neisser, Carter, Bermann, and others, the author thinks it probable that sufficient care has not been taken to prevent the contamination of the specimen with bacilli, or perhaps the omnipresent micrococcus-zoöglea and spores have been mistaken for characteristic forms, or, as acknowledged by Hansen (in his latest communication, in which he retracts his former views), the peculiar changes going on in the diseased tissues (appearing coincidentally with the softening of the tubercles) are really due to the presence of "large groups of more or less degenerated neoplastic cells, originally derived from the nuclei of the fat-cells, and replacing the latter." Small crystals of margaric acid observed in these compound cellular bodies, though easily recognized, might nevertheless, in sections not stained with hæmatoxylin or methyl-violet, be taken for bacilli. Such observations have led to the conclusion that there is a specific bacillus lepræ, the truth of which Dr. Schmidt believes has not yet been demonstrated.—*Chicago Medical Journal and Examiner*, April, 1882.

RECTO-VULVAR FISTULÆ.—In a communication to the Société de Chirurgie recently, Verneuil, in compliance with a request, gave his personal experience in the treatment of this affection, and offered the following propositions: 1. Recto-vulvar fistulæ, small, easy to get at, and very easily operated upon, are very difficult to cure. 2. American operations, so well known, so efficacious in vesico-vaginal fistulæ, are mostly unsuccessful, even when skilfully performed. 3. Their various failures have forced surgeons to modify con-

tinually their method of operating; but these changes have not had much result, because the causes of non-success have not been sufficiently elucidated. 4. It is to the discovery of these causes that attention must be directed in order to establish securely an operation so trifling and so simple that its non-success is a disgrace to surgery.

M. Verneuil concludes that the cause of this non-success is the effort to obtain immediate union, whereas the only cure to be hoped for is by granulation,—a method, indeed, by which cures are sometimes effected spontaneously in this condition.—*Bulletin Général de Thérapeutique*, April 15.

MISCELLANY.

THE meeting of the American Surgical Association, held during the past week (May 31 and June 1 and 2), was the most successful that the Association has ever held. Prof. Gross presided, and valuable papers were presented and discussed. Entertainments were provided by Prof. S. D. Gross, S. W. Gross, J. H. Brinton, D. Hayes Agnew, J. Ewing Mears, and R. J. Levis. A report of the meeting will appear in our next issue.

A SPECIAL meeting of the Alumni Association of the Jefferson Medical College was held on Tuesday, May 30, at the College of Physicians, to consider the endowment of a chair of Pathological Anatomy at the Jefferson College in honor of Prof. S. D. Gross. Pledges amounting to several thousand dollars have been already received for this object.

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.—Drs. Frické, Packard, Dunglison, and Woodbury, of the Philadelphia delegation to the American Medical Association, have gone to St. Paul.

THE MASSACHUSETTS STATE PHARMACEUTICAL ASSOCIATION was organized on May 17 by a convention called for the purpose, which assembled at Worcester. About two hundred pharmacists were in attendance.

THE NEW JERSEY STATE PHARMACEUTICAL ASSOCIATION on May 18 concluded a very successful meeting at Atlantic City.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MAY 14 TO MAY 27, 1882.

LIEUTENANT-COLONEL GLOVER PERIN (SURGEON), MAJOR WILLIAM C. SPENCER (SURGEON), and CAPTAIN PHILIP F. HARVEY (ASSISTANT-SURGEON) directed to represent the Medical Department of the Army at the annual meeting of the American Medical Association, to be held in St. Paul, Minn., on June 6, 1882. S. O. 114, A. G. O., May 17, 1882.

MAJORS C. T. ALEXANDER and J. H. JANEWAY (SURGEONS) and CAPTAIN R. H. WHITE (ASSISTANT-SURGEON) detailed as members of a board of medical officers to examine into physical qualifications of members of the graduating class and of candidates for admission to Military Academy. S. O. 110, A. G. O., May 12, 1882.

MOSELEY, E. B., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 120, A. G. O., May 24, 1882.

PHILADELPHIA, JUNE 17, 1882.

ORIGINAL LECTURES.

CLINICAL LECTURE ON ACUTE DISEASE IN DRUNK- ARDS—DELIRIUM TREMENS.

Delivered at the Philadelphia Hospital, December 15, 1881,

BY WILLIAM PEPPER, M.D.,

One of the Physicians to the Hospital, and Professor of
Clinical Medicine in the University of Pennsylvania.

Reported by WILLIAM H. MORRISON, M.D.

GENTLEMEN,—If I had known that this man had failed so greatly since yesterday, I should not have brought him before you this morning; but, as he is here, I shall rapidly call your attention to his condition, and have him sent back to his ward. I shall then proceed to a consideration of the different points suggested by it.

He is a young man, not more than 35 years old; he has followed the sea, and has led a life of exposure and exertion; his history is one of grave and prolonged intemperance; he has never had delirium tremens. He was not admitted to the hospital in consequence of intemperance.

He was taken about the 6th of this month (a week ago) with severe pain behind the sternum, accompanied by cough and slight frothy expectoration. He had no fever at that time, and for several days after admission no increased temperature was noticed. Examination of the heart at that time showed it to be exceedingly feeble, but without any distinct valvular murmur. The weakness of the heart revealed itself most plainly in alteration of the first sound, which was short, sharp, and valvular in character, closely resembling the ordinary second sound. There has been no pericardial friction-sound. The urine is albuminous. The man's face is pale and anxious-looking, and bears the marks of excessive exposure.

He remained in about the same condition until December 11, when his temperature increased to 101° , and his pulse became more rapid. At the same time, the pain which had been complained of behind the sternum extended to the right side, and there were evidences of a localized pleurisy at that point. During the evening of the 12th he became delirious,

wandered in his talk, was restless, and was controlled with difficulty. From that time until the present his symptoms have become rapidly aggravated.

The range of temperature has been as follows. On the evening of the 11th, 101° ; by the morning of the 12th, 103.4° ; evening of the 12th, 104° ; morning of the 14th, 104.2° ; evening of the 14th, 104° ; this morning (15th) it is 102.4° . With this there has been a corresponding increase in the pulse, so that it is now 160 in the minute, and is a mere thread, extinguished by the slightest pressure,—small, weak, and fluttering.

We have here that horrible form of dyspnoea known as orthopnoea. This man is unable to lie down; no sooner does his head approach the level than he says that he cannot possibly stand it. Indeed, the erect condition hardly suffices to give him any measure of comfort. He would gladly, if he were able, be out of bed sitting in a chair, or leaning forward to give full play to all the respiratory muscles.

Orthopnoea, or, as it literally means, breathing possible only in the erect position, is the highest degree of dyspnoea. It is seen in a marked degree only in cases of sudden attacks of spasmodic asthma, and in very grave conditions of disease.

As to the rapidity of the breathing. The respirations are only thirty-six in the minute. You see that the respirations are rapid, but you observe that the increase does not correspond with the increased pulse, which has risen to 160. You also see that the relation between the respiration and pulse is preserved better than in such diseases as pneumonia. It is not at all rare in bad cases of acute pneumonia to find the respirations go up to 50 in the minute, and in young persons I have counted them when they were 80, and in adults not rarely 60, per minute, and this with a pulse-rate of 130, so that the ratio between the respiration and pulse was as 1 to 2. Where you have this increased frequency of the breathing gaining greatly on the pulse, or, in other words, where you have the pulse-respiration ratio greatly disordered, you will conclude that there is some serious disease of the lung, and that the derangement of the heart is sympathetic. In this case the relation of the respiration to the pulse is as 1 to 4.5. Such a disorder of breathing and circulation is

much more apt to occur when there is some radical failure of the powers of the heart itself, and the disorder of respiration is due, in such cases, not to any disease of the lung of an acute inflammatory character, so much as to secondary engorgement following the heart-failure. We find in the present case with this, I am sorry to say, all the evidences of rapid giving out of the heart-power.

This great difficulty of respiration is attended with a constant rattling sound which is audible over the whole room. It is most marked in expiration. There are submucous and subcrepitant râles all over the chest. These are produced in the bronchial tubes, and are caused by the air passing through watery secretions which he is unable to throw off. We find the extremities clammy and dripping with sweat; the whole surface is pale. I shall now have him carried back to the ward. (The man was then removed.)

Here, then, we have a man who is moribund. He will not live until to-night. That sound is the death-rattle. It is due to the secretion into the bronchial tubes of fluid that he no longer has the power to expectorate. His heart is probably in a state of advanced fatty degeneration. He has the additional trouble of albuminuria, and some acute pleuro-pneumonia, which I have not attempted to examine closely. This complication of troubles in a person with his degenerated system renders recovery almost impossible.

Orthopnoea, when present in any of the diseases of the heart and lung, is a most grave symptom; grave, because it indicates intense derangement of the respiration and circulation; grave, because it compels the patient to put forward constant exertion to maintain the respiration. It is, therefore, not only a sign of the highest degree of exhaustion, but is also a cause of greater exhaustion. When in pneumonia orthopnoea appears, it is an exceedingly bad sign. When it develops in a case of pleurisy, it is an indication for immediate operation.

Its explanation in the present case is not difficult. You will observe that, in all probability, the local inflammation was so trifling that this man would not have been very ill if he had not been in this broken-down state of health. And this illustrates the great dangers to which inebriates are exposed from the supervision of any acute disease or the occurrence of any

injury or accident. A man who has healthy habits and is accustomed to live moderately will bear the most serious accidents and violent acute diseases, react against them, and with good care and reasonable nursing will throw them off; but a man who has saturated himself with alcohol, whose nervous system has lost all proper reactionary tone, and whose tissues, probably, are degenerated by the alcohol in the blood, no sooner gets an acute disease or receives an injury than there is great danger of his succumbing to it.

The dangers which are apt to be developed in drunkards, in disease or after an accident, are these. In the first place, the kidneys are apt to give out. The kidneys of a drunkard are always overtaxed, perhaps not to the point of producing organic disease,—Bright's disease in some of its forms,—but there is certainly a state of lowered power, so that when the least additional strain is thrown upon them they will give out and their function will fail. There will then be all the grave secondary results of interference with the depuration of the blood and the system. You will find, therefore, that drunkards who are attacked by disease or who have received an injury will pass into this state with albuminuria and scanty urine, although previous to this they may have exhibited neither of these symptoms.

You see this exemplified in this patient. This man had a pain apparently of a rheumatic character, and came into the hospital to recuperate from his debauches. He complained only of an apyretic attack of pain under the sternum, and of no grave pulmonary symptoms; but while in the house, on the fifth day after admission, the pain increased, and we had the symptoms of the acute stage of a circumscribed pleurisy. This man may have had albumen in his urine previous to this attack, but shortly afterwards albumen was abundant. From that time the symptoms of failure of the kidneys have been marked.

The second danger to which I shall refer is delirium. This occurs in drunkards with great ease, and probably has its roots in the condition of the nervous system, which, in the drunkard, is in a state of habitual irritation and exhaustion. This is true of the motor, emotional, and mental functions. You will find that any disease or injury coming on such a one is apt to lead to irregular nervous action and delirium.

The very condition of the kidneys gives another hint as to the way in which delirium is produced in such persons. It is not rarely of a uræmic character, resulting from the defective kidney-action, defective depuration of the blood, and the retention of poisonous matters in that fluid. As a result we have a delirium of an ataxic character. Here, then, we have two forms of delirium which we meet with in drunkards subjected to an acute disease or an injury.

This man's kidneys, I do not doubt, are pale white, fatty, affected with a subacute form of Bright's disease. This failure of kidney-power has resulted in a sort of slow uræmia. His nervous system is under the sedation of some toxic agent: his intelligence is blunted, and he is in the condition of a man with acute œdema of the lung. You often see this condition developed in Bright's disease without any acute symptoms whatever.

Then, again, we have treated this man from the start on the supposition that he was going to have delirium tremens. The condition of exhaustion and irritation of the nervous system which lies at the root of this state has been operative here, and this delirium might be explained as a mild type of delirium tremens. Whenever a drunkard receives an injury or gets an acute disease, he is liable to have delirium tremens follow. This is constantly met with in the surgical wards of hospitals. A man who has been drinking falls down and breaks his arm, comes to the hospital and has it dressed, is perfectly quiet, but that night he is found rushing around the room and threshing the air with his broken arm in the delirium of mania-a-potu.

Now, as to the condition of this man's lung. We have unquestionably had some little local inflammatory centre, which has probably gone through the lower lobe of the right lung, with plastic pleurisy and partial pneumonic consolidation. Although we have not been able to study the physical signs in this case on account of the râles and his exhausted condition, that is my opinion derived from the high temperature and its rapid development. There is little doubt that with the temperature of 104° there was the development of some pneumonia of the lower lobe.

There is another danger, and that is fatty degeneration of the heart and failure of its power. This presents one of the most se-

rious complications in injury and sickness of habitual drunkards. In these cases you frequently find that the fibre of the heart has undergone degeneration, and that when a strain comes upon it it fails to respond, and sinks into a state of paresis, followed by secondary trouble from engorgement of the lungs. There is then additional labor thrown on the heart on account of the congestion of the lungs, and this is increased if there is consolidation. There is then an escape of serum from the branches of the pulmonary vessels to relieve the passive congestion. This is one explanation of the development of œdema of the lung, with profuse watery secretions in the bronchial tubes.

I have no doubt that the albuminuria is associated with changes in the walls of the vessels which we constantly find in chronic albuminuria, and this increases the failure of the circulation and the leakage of the serum into the lung. Therefore heart-failure, pulmonary congestion, and œdema are to be mentioned among the gravest dangers of these patients.

Our unfortunate patient presents the whole of this series of complications,—albuminuria, delirium, pulmonary engorgement, and œdema,—and with this he has a fatty heart, feeble circulation, and such exhaustion of nerve-power that it is not difficult to say that he is hopelessly ill and to prophesy that his death is not many hours distant.

Now, as to the influence of this upon the treatment. You will at once see that it must be very considerable; and being called to a case of disease in a drunkard you will expect a much more serious case than if the same disease had occurred in an individual who did not use alcohol. The danger which you have to guard against I have mentioned. Now, how will you modify your treatment, say, in a case of pneumonia or a severe surgical injury occurring in a drunkard? This brings us to the very grave question,—than which I know of no other more difficult to decide,—that is, how far the fact that a man has been in the habit of using alcohol in his ordinary condition of health calls for a continuance of the use of alcohol when he is taken ill. This is not a simple question. At first sight we should all say that the stimulus should be continued. If he can bear the stimulus, if he can take food as well or better with the stimulus, if the or-

dinary conditions which we recognize as indicating stimulants—namely, feeble pulse, weak first sound of the heart, prostration of the nervous system, and tendency towards the typhoid condition—are manifested, undoubtedly stimulants should be given, and the more freely because he has become habituated to their use. In this class of patients, however, there is sometimes (and not rarely) an altered relation of the system to stimuli, just as there is to food. You cannot, therefore, follow a routine course in such cases and order a certain amount of stimulus. There are conditions of the stomach, of the biliary secretions, which will contra-indicate the use of alcohol, although the general system and the habits of the patient would make its use desirable. This is not only true of acute disease, but also when delirium tremens appears. It is difficult to consider such cases without considering delirium tremens. You see that this man has been on the brink of delirium tremens, and, indeed, he may have had it very mildly, and you are brought face to face with the treatment of delirium tremens.

Speaking in general terms, I think it safe to say that such patients require alcoholic stimulants. I have a friend who has had a very large experience in the treatment of delirium tremens, occurring as the result of injury and without this exciting cause, and who manages his cases entirely without alcohol with very good success. I mention this—although I cannot fully agree with this gentleman, whose views I highly respect, for I am sure that alcohol is useful, in fact, necessary in some cases—to impress on you the fact that you must study the indications present in each case, and not give alcohol as a matter of course, and if there are contra-indications it had better be omitted.

If you cannot use alcohol, you may substitute some powerful nerve-stimulant. Probably the best stimulant is concentrated stimulating food. Give a carefully-made beef-tea, administered hot and spiced, in moderate amounts at short intervals. This stimulating stomachic food has a very powerful effect upon the nervous system. This can often be administered freely and will be retained in cases where alcohol cannot be used.

In the next place, carbonate of ammonia is a valuable nerve-stimulant. It is well borne by such patients, stimulates

their respiratory and circulatory centres, is easily eliminated from the system, as a rule does not irritate the stomach, and is, on the whole, a valuable substitute for alcoholic stimulants, and can sometimes be given with success where the latter would produce irritation of the stomach, would not be absorbed, and would not produce their legitimate results.

Then we have assafoetida, camphor, and valerian. Of these I should be disposed to say that assafoetida and camphor are the most useful: they are both valuable. Assafoetida can be given in suppository; camphor in tincture or pill form.

In many such cases you will find strychnia a useful element in the treatment. In the case of this man I am going to try (although I think that it will not do a particle of good) the effect of hypodermic injections of strychnia, in full doses, at short intervals, to see if they will cause any reaction. With this he shall have full doses of carbonate of ammonia and alcohol.

You get hold of a case of disease in an intemperate person, and you anticipate trouble. What will you do? Absolute rest will be your first injunction: the least exertion or excitement must be avoided. Secondly, the relief of pain. Pain should be carefully guarded against. You should not hesitate to use morphine hypodermically in doses sufficient to control the pain, and then either alcoholic stimulants or stimulating nutriment, combined with stimulants of a more diffusible character, so as to steady the nervous system and anticipate the development of delirium tremens.

In regard to delirium tremens, I believe this condition coming on from the effects of drink without the further exciting cause of acute disease or injury is growing less common than it was twenty years ago. We meet with these cases of two varieties. I do not intend to cover the whole ground of delirium from alcohol, but only to call attention to the two sorts most commonly met with. In one, symptoms of violent nervous excitement, with the preservation of a good deal of muscular strength, occur acutely in a man in comparative health who had been using stimulants freely. I have seen it occurring under various circumstances. It may come on after a straight-ahead, violent debauch, or, much more rarely, in a man who has been drinking to excess, and taking little food, and whose

liquor has been suddenly stopped from some cause.

This is the common delirium tremens, a much milder and less dangerous condition than the second form. Here, the man for the most part has been drinking longer; he has either been drinking steadily for a great while, or has been on a prolonged spree, taking but little food; he has become exhausted from the absence of food, and his nervous system has been terribly exhausted from the overstimulation of the alcohol, and from the powerful reflex irritation conveyed to it from the inflamed mucous membranes. There are often, in addition to this, disorders of the liver and kidney, the performance of their functions being perverted by the huge amounts of alcohol taken.

The man is unable to sleep. He remains for a night or two almost entirely wakeful. Then visions appear to him. He has fancies and hallucinations. These are of an annoying, unpleasant, nasty character. He thinks that he is chased by demons; that he is covered with swarms of vermin; that rats are after him; or he sees grotesque faces around the room which grin and leer at him. Then the power of appreciating that these are only fancies and hallucinations is lost, and they become to him realities, and he passes into a state of violent delirium. The muscular system is exhausted and relaxed, and there is usually marked trembling of the muscles,—delirium *tremens*,—so that the entire frame is in a state of constant jactitation, the voice is tremulous, and the tongue projected with difficulty and vibrating. The surface is, for the most part, pale, clammy, and bathed with sweat. Very often there is derangement of the stomach. There may be vomiting, and usually there is a disgust for food. There may be diarrhoea and jaundice. The urine is scanty, and, if the man has been drinking for a long time, albuminous.

The treatment of delirium tremens is both important and difficult. There is no condition in which we are less able to lay down positive rules; but there are certain general principles which you must apply to meet the indications and peculiarities of individual cases. We may say that quiet, rest, and isolation are necessary. Every noise, every new face, serves as an additional excitement. These patients should be kept in a quiet room, perhaps not in darkness, for in the dark their visions take a more

definite form. They sleep more readily in a bright light than in the dark. They must be attended by one or, at the most, two persons, calm, strong, composed, and assured. The patient must be kept in as complete isolation as is possible. If you are practising in the city, you can avail yourself of the special rooms provided in hospitals for these patients.

Their food requires immediate attention. You must see that they are compelled to take suitable food, and it had better be liquid. Strong soups and beef-tea represent about the best form of stimulating food, and will be retained by the stomach when milk would be coagulated and rejected. In addition to this you can use whey from milk coagulated by rennet. Sometimes you can give a raw egg in the beef-tea or milk. In some cases they may be able to take solid food in small quantities, but, as a rule, you will find that strong concentrated liquid food is the best, treating them as you would a patient with an acute febrile affection.

Then they need, in the next place, composure of the nervous system; and here you are met by one of the most difficult problems in the treatment of the case, scarcely excepting the question of how much alcohol should be given: sleep and composure of the nervous system,—how to get them? Perhaps the best method is by the hypodermic injection of morphia, associated with a minute amount of pilocarpin: for instance,—

R Morph. sulph., gr. $\frac{1}{4}$;

Pilocarp. muriatis, gr. $\frac{1}{12}$.

Pilocarpin is used merely to give it a tendency towards the skin and kidneys, so as not to arrest secretion. The system is saturated with poison, the nervous system is in a state of intense irritation, you desire to cause the elimination of the poison, but at the same time you are obliged to give remedies some of which have a tendency to arrest secretion: you therefore combine with these remedies some drug which will promote the action of the emunctories. Pilocarpin is described as a depressor of the heart; but I have used it in many cases, and I have yet to see my first case of serious depression of the heart from jaborandi or pilocarpin. I have used it, it is true, in moderate doses, carefully watching its effects, and repeating the dose only when the indications called for it.

Sometimes morphia will fail. Instead of

producing quiet, the patient becomes more restless; the dose is repeated, but he becomes wilder and wilder. It was in such cases that the bromides of potassium, sodium, calcium, and the like were welcomed, when first introduced in practice, as likely to be exceedingly valuable. I had an opportunity some time ago of using them in a large number of these cases. I found that in some instances they acted like a charm, particularly in the milder types and when the patient was seen soon after the insomnia and restlessness made their appearance. In such cases the bromides would sometimes abort the attack. I think that next to morphia the bromides, in some of their combinations, should be given. (If the stomach is irritable, I prefer the bromide of sodium.) The bromides are somewhat depressing to the heart; still, in this condition I do not think that we need dread their depressing effects, for you are only going to give a few full doses and then continue it in moderate doses. You may give thirty grains of bromide, to be repeated in a couple of hours, followed by fifteen-grain doses every three hours for the succeeding twenty-four hours. This alone, or in conjunction with morphia, will sometimes cure the case.

Chloral was in the same way welcomed as a good remedy in delirium tremens where opium was not successful; but I have always avoided chloral as much as possible, for this drug does possess a depressing action on the heart of a most positive character. In cases where the greatest dangers are from failure of the heart's action I regard chloral as a drug to be used with great care. When I do use it, it is in combination with bromide of potassium or sodium, and in small doses repeated at short intervals. I never give more than ten grains of chloral hydrate with twenty grains of bromide of potassium or sodium, repeated in two or three hours if there are no effects, and then continue them in doses of five grains of chloral with fifteen grains of the bromide in the way which I have mentioned. It may be used by the rectum in the form of a suppository, or by the mouth with opium, morphia, or the deodorized tincture of opium. Chloral may sometimes be used with good results in the form of enema. Where there is irritability of the stomach, and neither food, alcohol, nor chloral will remain in the stomach, an enema of chloral

(twenty grains in three ounces of starch-water) will often produce a very quieting effect and be followed by sound sleep. There is no contra-indication to the use of morphia or opium at the same time with the bromides or chloral.

The drugs that I have mentioned are the more powerful sedatives. Then we have such drugs as assafoetida, camphor, valerian, and musk. You will usually depend upon the more powerful drugs; but when these do not act, and the patient passes into a typhoid condition with muttering delirium, a great deal of muscular spasm, and extreme nervous prostration, you will find these latter drugs of marked value.

Your patient then has been treated in the manner which I have indicated; and now the question arises as to how much alcohol you will give him. You are keeping him in isolation, you have removed every source of nervous irritation, you are giving him stimulating food, and you are trying to allay the nervous irritability and secure rest at the earliest possible moment. But before I leave this question of sedation of the nervous system I should refer to the value of counter-irritation. A blister to the nape of the neck will sometimes cause a dose of morphia to produce sleep, when, without the blister, it would fail. When there is marked flushing of the face and cerebral excitement, a blister is of great service. You may, where the patient is not too violent, use cooling applications to the head; or you may place him in a tepid bath for a few minutes, then wrap him in a blanket and put him to bed; or you may sponge him at short intervals with some cooling lotion; or, lastly, you may apply a blister to the back of the neck. You will often find these various plans valuable adjuvants to your treatment.

Now as to the use of alcohol. Here, as in cases of typhoid fever, we must judge by certain indications, only in these cases we are predisposed in favor of alcohol because the man has been accustomed to its use. The force of the heart, the character of the pulse, the condition of the stomach, and the amount of the delirium are the main indications which should govern us in the use of alcohol. In general you would not give a patient full doses at once, but would begin with moderate amounts of the more dilute forms of alcohol; for instance, you would give with the whey a little sherry wine. That with the other treatment

will answer for mild cases of delirium tremens. In some cases where the pulse and circulation are good, the delirium mild, and there is no evidence of the typhoid condition, you may safely omit alcohol altogether; but you meet with cases where there is extreme muscular prostration, delirium of a low muttering type, where the stomach will not retain food but will retain alcohol, the pulse is feeble, the second sound of the heart is weak, and the skin is moist and disposed to be cool: in such cases you must use alcohol freely, because the condition occurs in cases where there has been an excessive use of alcohol in cases of chronic intemperance. This condition does not occur in the first attack, but in the second, the third, the twelfth. In such cases I have given one ounce of cognac every hour day and night for several days, at the same time giving carbonate of ammonia and hot beef-tea, and trying to bring the patient under the influence of opium in the way I have mentioned.

Delirium tremens is, then, an acute systemic disorder. All the functions are deranged. There are disorders of the digestion, of the circulation, and of the nervous system. You will see from this hurried sketch that you cannot pretend to follow a routine method of treatment, but that you must judge each case on its own merits.

[The patient died before night.]

ORIGINAL COMMUNICATIONS.

VIRULENCE OF NORMAL HUMAN SALIVA.

Abstract from a Thesis presented for the Degree of Doctor of Medicine in the University of Pennsylvania.

BY CHARLES CLAXTON, M.D.

THE announcement by Monsieur Pasteur of a "new disease," produced in a rabbit by the subcutaneous injection of saliva from a child that had died of hydrophobia,* and the further experiments of Dr. George M. Sternberg, U.S.A., with normal human saliva injected in the same manner,† suggested to me the further investigation of this subject. I have found it of exceeding interest, and am confident, if studied as exhaustively as its importance demands, it must eventually throw much light upon that most fatal malady, hydrophobia.

When I entered upon this investigation, I mapped out for myself the following course: first, to ascertain whether or not normal human saliva thus injected produced fatal results; secondly, by careful experiments, to discover, if possible, to what element of the saliva its virulence was due; and finally, by an extended series of culture experiments, to determine whether a virus sufficiently modified could not be obtained which would protect other rabbits against the saliva's septic influence, and thus, at least, indicate an immunity from rabies.

In all but the last I believe I have for the most part succeeded.

The culture experiments, I regret to say, I have been compelled to omit, because of the time and constant attention requisite in order to conduct them properly. My experiments were performed in great part as a check upon those of Sternberg; and while, therefore, they are in many respects simply repetitions of his, yet I think there are enough points of difference, both in method and result, to warrant my thus recording them.

In order to provide against errors from this source I have endeavored to keep the animals experimented on in as near their natural conditions, both with respect to food and surroundings, as was possible.

I have confirmed by numerous experiments the fact (demonstrated first, I believe, by Sternberg) that normal human saliva injected into the subcutaneous connective tissue of rabbits produces death in periods varying from twenty-four hours to, in a few instances, three weeks.

Query.—Is a similar result obtained by the injection of other fluids which contain organic matter in solution or suspension?

Ans.—One cubic centimetre of urine injected into four rabbits produced no effect, while the same quantity of putrid fluid from an ovarian cyst containing *Bacterium termo* in abundance killed two small rabbits within twenty-four hours.

I note this fact since it differs from the result obtained by Dr. Sternberg, who injected 1 cc. of putrid urine, also containing *Bacterium termo* in abundance, without producing death. To this may also be added the injection by Sternberg of 1 cc. each of liquid feces and distilled water (1-10), which failed to kill two rabbits; 1.25 cc. of bouillon undergoing putrefaction and loaded with bacterium termo,

* Comptes-Rendus, Académie des Sciences, 1881.

† National Board of Health Bulletin, April 30, 1881.

which failed to kill a rabbit; 1 cc. of sediment from Baltimore water, consisting of organic debris and organisms, chiefly *Bacillus subtilis*, *Leptothrix bacilla*, *Protococcus*, and a few diatoms and flagellate monads, which failed to kill a rabbit. "On the other hand," says Sternberg, "injections of a small quantity of surface-mud from the gutters of New Orleans during the month of September, 1880, invariably produced fatal results within forty-eight hours."*

Q.—Does the saliva of all individuals, injected in the same manner, produce fatal results and exhibit the same degree of virulence?

A.—In one series of eighteen rabbits injected with the saliva of seven individuals, I obtained fourteen deaths and four negative results. Of the fatal ones,

5 died in between one and five days;

4 " " five and ten days;

4 " " ten and fifteen days;

1 died in nineteen days.

It will be observed here that I differ from Sternberg with respect to what may be considered a possible period of incubation as compared with a negative result. I am compelled to do so from the fact that, even in instances where the rabbit has lived for three weeks, I have found, on making a post-mortem examination, quite the same lesions, though perhaps different in degree, as I had observed in animals which had succumbed in forty-eight hours.

The nature of these lesions I shall discuss farther on.

Q.—To what shall we attribute this difference of virulence in the salivas of different individuals?

A.—Thus far I am able to point out only certain broad elements which it seems to me may possibly serve to explain it,—namely, that two of the gentlemen whose salivas were especially poisonous were, the one Dr. F., a pathologist, and constantly brought in contact with septic material, and the other Mr. W., whose studies have also, though in a far less degree, lain in the same direction.

[NOTE.—Sternberg also experimented with Dr. F.'s saliva, and noted this possibility.]

I have also observed the same remarkable virulence in the residents of tropical countries, as of Cuba and Brazil, as also in the case of negroes, the saliva of which

latter race exhibits it to an extreme degree. With respect to Cubans, Sternberg remarks, "The possibility that this septic condition of the secretions of the mouth may bear some relation to the protection which these Cubans and myself enjoy against yellow fever, which is a disease presenting many points of resemblance to septicæmia, has occurred to me. Without at present laying any great stress upon this possibility, I think it worthy of further experimental consideration."

I have also been struck with the fact—which perhaps has but little significance, and yet is worthy of note—that the virulence seems to bear a decided relation to the amount of tobacco used by the individual; that is to say, the saliva of smokers either did not kill at all, or else it killed in an inverse proportion to the amount of tobacco used.

There were, of course, some exceptions to this rule, as, for example, in the case of Dr. F., before mentioned, who is an inveterate smoker. I think a probable explanation of this fact is that the nicotine destroys the septic micrococcus (the existence of which latter I shall endeavor to prove later).

Q.—Does saliva, similarly injected, produce death in other animals?

A.—The injection of 1.5 cc. into two dogs—the one small, the other large—failed to have any effect other than the production of local abscesses at the point of injection. Injection of .5 cc. into two rats gave no result. Sternberg experimented upon chickens, with no result; upon three guinea-pigs, getting two deaths.

Q.—What is the nature of the disease thus produced by the saliva?

A.—I think it is unquestionably a form of septicæmia, as indicated by the symptoms and post-mortem lesions.

After the injection there is a rapid rise of temperature, which in a few hours may exceed the normal by 1.5° to 3° Cent. Subsequently there is a fall of temperature, and immediately before death I have observed it several degrees below normal. The animal ceases to take food, becomes exceedingly weak, death taking place in convulsions.

[NOTE.—Out of all my experiments I have been fortunate enough to witness but two deaths. In both of these instances, however, and in two others of my rabbits,

* Unpublished Report to National Board of Health, February, 1881.

reported by an assistant, the convulsions were frequent and violent.]

With respect to the fact observed by Pasteur and Sternberg, and which is unquestionably true,—namely, that death results still more quickly when the blood from a rabbit recently dead is injected,—I have obtained in one instance such an extraordinary deviation from the rule that I think it worthy of note.

Example.—December 17, injected 1 cc. of blood taken from a rabbit which had been poisoned with the saliva of Mr. R., a Brazilian. Being present at the death of the animal, I made an immediate microscopical examination of the blood, and immediately injected 1.5 cc. of it into a second rabbit. The blood was literally a mass of micrococci, free, in zoöglea masses, and infesting the white blood-corpuscles. Instead of a rapid death, as I had anticipated, this rabbit did not succumb till January 10 following, thus exhibiting an incubation of twenty-four days, which is certainly an unaccountable exception to the ordinary results. The pathological appearances consist of a diffuse inflammatory oedema or cellulitis, situated about, and extending from, the seat of inoculation.

In those cases which have a rapid termination there is either no pus at all or but little, while in those which live for a week or more there are usually cheesy masses. The subcutaneous connective tissue is filled with an exceedingly virulent bloody serum containing immense numbers of micrococci, compound granule cells, fat globules, crystals of phosphates, etc. There is more or less inflammatory adhesion of the integument to the subjacent tissues. The liver is usually congested, though often apparently normal, as is the case with the spleen also.

Sternberg remarks with respect to this latter viscus, "Changes in this organ are more marked in those cases which are of longest duration. In certain cases dark-colored pigment has been found in the spleen, resembling that which has been supposed to be characteristic of malarial fever."

With reference to both these assertions, my observations have led me to a different conclusion. In opposition to the first statement—namely, that "changes in this organ [spleen] are more marked in those cases which are of longest duration"—I would adduce the following:

In one case of twelve days' duration, spleen normal (*i.e.*, not discolored).

In one case of thirteen days' duration, spleen normal.

In one case of eighteen days' duration, spleen normal.

In one case of nineteen days' duration, spleen normal.

While on the other hand,—

In two cases of two days' duration, spleen very dark.

In two cases of four days' duration, spleen very dark.

And with respect to the observation that pigment had been found resembling that supposed to be characteristic of malarial fever, I also believe him mistaken; for, having been struck by the great diversity in appearance presented by the spleen on post-mortem examination, in animals which had succumbed under like conditions, both of tissue and saliva injected, I sought an explanation, and with the following result,—*viz.*, that it was due to post-mortem change. I was led to this conclusion from the fact that the "pigmentation" bore a direct relation to the period which had elapsed between the time of death and the time of making the examination. For example: December 12, 1881, a rabbit which had been injected December 5 (seven days before) having died while I was present, an immediate post-mortem examination was made, presenting the following lesions. At the seat of inoculation an exceedingly large diffused abscess extending below the deep fascia, embracing an area of four to five square inches. The pus at the seat of puncture presented the usual microscopic appearance,—compound granule cells, micrococci, etc.; lungs passively congested; right side of heart containing large clot extending into pulmonary arteries; kidneys and liver congested; *spleen small, sharp-edged, and not discolored*. Here, then, we see, in spite of the most strikingly typical lesions, but where an *immediate* examination was made, the spleen was, as my notes made at the time read, "small, sharp-edged, and not congested;" while, on the other hand, when, through any cause, my examination was delayed, I invariably found the "pigmented spleen," and that in a direct proportion to the period which had elapsed between the death of the animal and the autopsy. Moreover, I have demonstrated the truth of this conclusion time after time on rabbits which had not

been inoculated at all, examining some immediately after death and others at periods varying from one to five days. In the former cases the spleen was invariably normal, while the latter presented the "pigmented spleen" markedly and just in the proportion above given.

A consideration of the facts herein presented cannot fail to suggest the identity of the disease produced by me and that produced by Pasteur with the saliva of the child dead of hydrophobia.

This resemblance I am able to exhibit still more strikingly by a few experiments (four in number) which I have been enabled to perform (but, unfortunately, too late to carry out at greater length) with the saliva and blood of dogs which had died of rabies in the dog-room of the University. They were as follows:

December 13.—Injected two rabbits with the blood of a dog dead of rabies. Result: one died December 15; the other, December 17.

December 10.—Injected two large rabbits with 1 cc. of the saliva and buccal mucus from a dog dead of rabies. Result: both found dead on the morning of December 12.

In both of these series the symptoms and post-mortem lesions were identical with those produced by normal human saliva.

I shall now discuss briefly the second part of my argument,—namely, what constituent of the saliva produces the fatal disease? And as my results accord so perfectly with those obtained by Sternberg, and my experiments in this direction are but repetitions of his, I shall be pardoned, I trust, for answering the question in his own words:

"The following facts demonstrate that the phenomena detailed result from the presence of a living organism found in the saliva, —namely, a micrococcus which multiplies in the subcutaneous connective tissue and also in the blood shortly before or after death."

(a) *This poison is particulate.* This I have confirmed by a number of filtration experiments. Example: January 26, injected 1 cc. of filtered saliva (filtered through ten thicknesses of heavy filter-paper and packed cotton by means of Sprengel's pump*) into three rabbits, and, at the same time, one-half the quantity of unfiltered saliva into two rabbits of the

same size. No harm resulted to the first three, while the two died the next day by 3 P.M.

(b) *The virulence of the saliva is lost by boiling.*

(c) *"The saliva loses its virulence when kept twenty-four hours in a culture oven at a temperature of 37° Cent."* (Sternberg.)

(d) *The addition of a ten-per-cent. solution of carbolic acid to two parts of saliva destroys its virulence.*

(e) *The effused serum from the subcutaneous tissue of a rabbit recently dead produces death, attended with the same phenomena as resulted from the injection of the saliva in the first instance; but, since this does not contain epithelial cells or salivary corpuscles, these may therefore be excluded as agents in the production of the results indicated. Moreover, these are present in the saliva of all individuals, while virulence to so intense a degree is an exceptional property of human saliva.*

In my original paper I entered at some length into a review of the culture experiments performed by Sternberg, which are by far the most powerful argument for my position,—namely, that the virulence is due to a micrococcus. In the present article, however, my intention being simply to record such experiments as I myself have performed, I shall omit it.

It would be exceedingly interesting to discuss the question whether the micrococcus I have found differs from the *Micrococcus septicus* of Cohn and is identical with the organism found by Pasteur in the blood of rabbits killed by the subcutaneous injection of the saliva of an infant dead from hydrophobia: the limits of my paper, however, forbid. I shall therefore, in conclusion, content myself with a description of this micrococcus; and, since its morphological resemblance is identical with that described by Pasteur and that obtained by me by injecting saliva from a dog dead of rabies, his (Pasteur's) description will suffice for both:

"This organism is sometimes so small that it may escape a superficial observation. Its form does not differ from that of many other microscopic beings. It is an extremely short rod, a little compressed towards the middle, resembling a figure 8, and of which the diameter of each half often does not exceed a half-thousandth of a millimetre (0.5 m.). Each of these little particles is surrounded at a certain focus

* Sternberg filtered through a thin stratum of plaster of Paris.

with a sort of aureole, which corresponds, perhaps, to a material substance."

[This aureole Pasteur believes to be due to a mucous substance rather than to diffraction.]

PHILADELPHIA, 1709 SUMMER ST.

A CASE OF CHOREIC NERVOUS DISEASE, WITH ROTATION OF THE BODY AND CATALEPTOID SYMPTOMS.

BY JAS. HENDRIE LLÖYD, M.D.,

Nervous Dispensary, University Hospital.

THE following case, which was probably the most interesting of those witnessed at the dispensary during the past spring, presents such unusual and even novel symptoms that it appears to be worth recording. The notes of the case, as taken from the dispensary case-book, and supplemented, are these:

W. I., æt. 8; white; born and resides in New Jersey. Family history: paternal grandfather hung himself; on the mother's side there is tuberculosis. Two years ago, had four attacks of "spasms." Two weeks ago, began to have them again, without known cause, and had from twelve to twenty a day. Three attacks occurred in the dispensary, under the immediate notice of the medical attendants. These were remarkable and always the same, and recurred at intervals of nearly an hour. The boy's head was suddenly drawn upward and to the right to its extreme limits, by the action chiefly of the sterno-cleido-mastoid muscle. The eyes turned also to the extreme right, with slight convulsive (clonic) action, and became fixed in that position, with very wide dilatation of the pupils. In a second or two he began to rotate his whole body to the right, and turned completely around, perhaps ten or twelve times. On some occasions he had fallen down, his mother said, towards the end of the spell. If taken hold of and steadied, which required but little force by the physician, the rotation could be stopped,—though the head and eyes remained drawn,—and the boy's arms could be placed in any desired position. If now he was once more let loose, his body again rotated, while his arms were held up in true cataleptoid rigidity. The whole duration of the attack was from one-half to one minute. The boy was intelligent, and said he knew what was occurring about him while he was in the fit, though he gave no satisfactory evidence of such knowledge at the time. There was no history of headache or of any disease. His ears were subsequently examined and found normal. He had had worm-medicine in abundance from the family physician, without results. There

were no psychical traits of importance to suggest foolish or wilful simulation. The only accident had been a fall from a wagon three years previously.

At the second visit the boy was seen by Prof. Wood and taken into the clinic. There had been no improvement (on potassium bromide) since last visit. He had had ten fits since morning, and it was thought very desirable to exhibit his performance to the class. He was accordingly given a chair while the professor attended to his other patients. The boy sat quiet, apparently interested in his surroundings, and not conscious that he was himself the object of notice. At the expiration of a full half-hour, and while the attention of the speaker and his students was drawn to another patient, he suddenly rose to his feet, and exhibited a marked and characteristic fit, just as has been described. Prof. Wood, in commenting upon the case, did not incline to the view of organic brain-lesion. He thought the symptoms were best explained by referring it to that class of ill-defined disorders known as chorea major. Its possible connection with epilepsy was not ignored. As the patient had an adherent prepuce, Prof. Wood advised circumcision, and took pains to explain the operation to the mother. This evidently made a great impression on the child's mind, which is worthy of notice in considering the case. The potassium bromide was continued.

At the third visit, which had been appointed for the operation of circumcision, the mother reported the patient much better. The attacks were less in number (on that day he had had but one), and their character was changed: not so much rotation, but a backward-and-forward jerking motion of the head. The boy had been having great fear of the proposed operation, and now said that he thought he could control the spells. A psychical element was thus distinctly indicated, and its likeness to chorea major to some extent increased. It was thought best, however, instead of circumcision, to break up adhesions and retract the foreskin, which was done by Dr. J. William White.

At the fourth visit, after ten days, a still greater improvement was noted. The boy had had no spell for five days. He had had one or two attacks at night, in which he raised himself in bed, leaned on his elbow, and rotated his head as far as he could. The foreskin had been retracted daily, and was all right; but it did not seem very probable that this operation had been useful except by its effects upon the mind.

In connection with this case, I was led to look into the literature of this anomalous class of cases. I append some of the results obtained.

The *physiology* of rotation and turning is tolerably well ascertained. In 1852

Brown-Séquard published* a concise view of the subject, and summed up the results. Irritation of the thalami, crura cerebri, tubercula quadrigemina, pons, auditory nerve, and parts of the medulla has been found to cause rotation, turning, or rolling. The theory of Henlé was that a convulsion of the eye-muscles caused a vertigo, which produced rotation. This seems to bear upon our case, in which there was convulsive movement of the eye. Brown-Séquard also thinks this an "element of the cause." It is worth while to note, however, that before this time M. Leuret had reported† a case, very curious in its symptoms, in which there was rolling without convulsive action of the eye. "But their great cause," continues Brown-Séquard, "is a convulsive contraction in some of the muscles on one side of the body. These convulsive contractions are to be found in every case of convulsive or rotatory movement. As to the cause of these contractions, it exists in the irritation produced in certain parts of the encephalon." Carpenter believes that circulatory movements are due to a weakening of the sensori-motor apparatus of the opposite side, whereby the balance of muscular power is destroyed. Von Ziemssen says‡ that the diseases here noted are due frequently to "cerebral maladies," by which I suppose is meant chiefly organic brain-disease. Laycock thinks§ that the cerebellum is involved, and that paralysis and loss of balance may be the cause. He gives a case in which rotation of the head was caused by a tumor on the tuber annulare; also of a child with remarkable alternate movements of the head to right and left, with cyst in right lobe of cerebellum containing calculi.

I have already said that our case was likened to chorea major. I may say right here that no term in modern medicine—not even hysteria—is used with looser significance than this word *chorea*. The original chorea—St. John's, St. Guy's, or St. Vitus's dance of the Middle Ages—was a pandemic frenzy, a popular furore, a fanaticism following great social afflictions, as the plague and the overflow of the Rhine; in fact, a true psychological excitement, rushing to all extremes of folly, vice, accident, disease, and even death.|| The mod-

ern chorea was first distinctly described by Sydenham, and may be read, for convenience, in any translation of his works.¶ If the pathology of the disease is not thoroughly known, its symptoms, at least, are generally easily recognized. They are the irregular involuntary or purposeless clonic spasms of the muscles, mostly of sporadic origin, occurring during waking hours, usually in the young, which are familiar to every practitioner,—a very different affection, certainly, from the dancing mania of the Rhine Valley or the *tarantismus* of Italy.

Now, chorea major (or magna, as the Germans have it) appears to occupy a position midway between these two affections. On the one hand there is the suspicion of a psychical origin for most of them, while on the other the action is in a measure involuntary,—i.e., the result of sensori-motor or reflex action, the will having become weak, or perhaps entirely powerless, though it may not have been so at first. For instance, the will may be under the dominion of a morbid impulse, confirmed into a bad habit by long indulgence. Such instances are not rare, but often so insignificant as to escape notice, as a trick or gesture of speech, an habitual grimace, etc. Prof. Wood mentions the case of a man who suddenly seizes his hat and pulls it violently over his eyes. The action is habitual, and the sufferer protests that he cannot help it. Dr. Radcliffe mentions** the case of a young man much resembling that of our rotating boy: "He turned round and round twenty times; he said that the impulse was not altogether irresistible, but that he could not resist the impulse successfully without being much agitated afterwards." Von Ziemssen (*loc. cit.*) has the following: "It is my conviction that the group of symptoms called chorea major is not a disease *sui generis*, but is only the product of genuine psychoses and cerebral maladies on the one hand, and of hysteria and wilful simulation on the other." The distinctions in this passage are not altogether happy or of practical good. Whether chorea major is a disease or the product of disease, i.e., "cerebral maladies" or "hysteria," which is a disease, or a "psychosis," by which is

* Philada. Med. Exam., Aug. 1852.

† Compt.-Rend. de la Soc. de Biologie, 1850.

‡ Ziemssen's Cyc., art. "Chorea."

§ Nervous Diseases of Women.

|| For some account of a similar and wonderful outbreak in

Madagascar in modern times, see a very interesting paper by Dr. Davidson, Edin. Med. Jour., 1867.

¶ The Entire Works of Dr. Thomas Sydenham, newly made English, etc., London, 1763, p. 552.

** Reynolds's Syst., art. "Chorea."

meant an abnormal mental state, the fact remains that we have such wonderful displays occasionally, which the physician is called upon to treat; and it behooves him to understand as well as possible that he has *disease*, or at least abnormal activity, to deal with. If the case be one of mere "wilful simulation," the doctor's duties are few and plain. Rosenthal* takes this practical view of the subject. He enumerates these symptoms: "Patients run, jump, hop, dance, climb, *whirl round*, stamp with feet, cry like animals, exercise like acrobats, declaim like actors, sing, recite poetry (even in a foreign language), etc." He also mentions anæsthesia, paralysis, and *cataleptic* and tetanic symptoms as attending these disorders, and says that consciousness is often clouded. It may be seen that many of these symptoms closely associate the disease to hysteria.

Dr. Andrew Crawford has narrated† a number of cases illustrative of this whole subject, and some of them strikingly like that of the boy which heads this article. One of these cases, a girl 10 years old, rotated like a top with great velocity. She afterwards took to rolling rapidly from one end of a walk to the other; "and even when laid in the shallow part of a river, though at the point of being drowned, she began to turn round as usual."

Another of these cases exhibited a convulsive rotation of the head and trunk. The movements were furious and alarming and of great rapidity. He also mentions a case called *malleatio*, or striking the knees with the hands as with a hammer. Another form sometimes seen consists in making a profound *salaam*.

I described the turning of the head in our case as due to the action chiefly of the sterno-cleido-mastoid muscle, which was in a state of tonic spasm during the fit. It was interesting to find two similar cases in this one respect in the literature of the subject. Tuke,‡ referring to emotion as a cause of chorea, gives two cases from Althaus in which there were contractions of this muscle: (1) the case of a lady with spasmodic contractions of the left trapezius and cleido-mastoid muscles, consequent upon a violent emotion excited by witnessing an accident in the street; and (2) the same disorder in a brewer, follow-

ing and apparently due to the circumstance that, when driving, his horse fell and broke his neck, which gave the man a great shock.

It may be possible that we have had something more serious to deal with in our case than chorea major. But when we consider the absence of all symptoms of more grave cerebral disease, the unlikelihood of simulation, the fact that the boy got much better in a very short time under the stimulating effect of a powerful mental impression (the proposed operation), and with a minimum of dosing (pot. brom. gr. x t.d.),—when we consider these points, the resemblance of the case to the others I have brought forward is certainly marked. The study is an interesting one, if difficult. "Cases will occur in which it is exceedingly hard to tell whether psychosis, cerebral disease, hysteria, or simulation is before us."§ Every case must have its separate psychical and physical study. In our case the indications seem tolerably clear.

WALNUT AND FORTIETH STS., WEST PHILADELPHIA.

DIABETES INSIPIDUS AND DIABETES MELLITUS.

BY HARVEY L. BYRD, M.D.,

President and Professor of Obstetrics, etc., in Baltimore Medical College, Baltimore, Md.

THE following cases can hardly fail to interest your readers, as they present, by comparison and contrast, the more salient points in the differentiation of the two varieties of diabetes, and the treatment that was successful in each. The family history in both cases appears to have been good, and there were no evidences of acquired predisposition to the disease, either specific or otherwise; and both were young men of originally good constitution, and engaged in active outdoor occupations. They may be regarded as typical cases in more respects than that which the names would seem to imply, and I shall therefore endeavor to bring out their individualities and distinctive features in as prominent outline as the brief space I have allotted to myself in this communication will permit.

Case I. was a man a little over 20 years of age, and of originally good constitution. His average flow of urine exceeded nine pints daily, of a specific gravity of 1005, without albumen, entirely devoid of sugar, and of slight acid reaction. While in the enjoyment of excellent health he discovered a gradual

* Diseases of the Nervous System.

† Cyc. of Practical Med., Forbes, art. "Chorea."

‡ Influence of the Mind upon the Body, Jour. of Ment. Sci., vol. xvi.

§ Ziemssen, loc. cit.

augmentation in the daily flow of his urine, which went on for some weeks without producing any appreciable evidence of ill health, although he soon found that "his clothes were growing too large" and his appetite was not so strong as formerly. He observed after this that he was losing flesh quite rapidly, and his desire for good, nourishing food grew daily less and less. In five months and a half after his attention was called to the increase in the urinary discharge, he found himself greatly emaciated and so much debilitated as to be scarcely able to walk across the room without assistance. He stated positively that he had never suffered from venereal disease, and had at no time during his recollection received any serious injury to the head or spine, or, in fact, in any part of his body. A careful examination of the heart, lungs, stomach, and bowels revealed no lesion of either of them. He suffered from occasional constipation, but his digestion remained moderately fair, and the thermometer revealed little or no departure from the normal standard. He seemed not to be remarkably thirsty, and, though complaining of some feeling of uneasiness in the small of the back, declared he experienced no actual pain in any part of the body. Opportunity was afforded for observing the difference between the amount of fluids he received into his stomach and that which was passed from the bladder, and they were in striking contrast. Thus, for example, he took into the stomach of fluids of all kinds six and a half to seven measured pints in twenty-four hours, and passed from nine to ten measured pints in the same length of time. These measurements were made and continued for a period of six days, and the resulting discrepancies were uniformly the same. Various articles of diet were used, in order to test their effects, if any, upon the urinary secretions, but without obvious results. His bowels were regulated with the vegetable cathartic-pill compound and elix. bromide of potassium in four-drachm doses, ordered at bedtime to procure sleep and remove restlessness, of which he sometimes complained; and he began taking drachm doses of fluid extract of ergot *ter die*. The quantity of ergot was increased to a drachm four times, and finally six times, in twenty-four hours, until the beginning of the fourth week, when it was reduced to the original amount per day, in consequence of the urine becoming reduced to three and a half pints in twenty-four hours. The bromide was diminished after the first week, and omitted entirely by the end of the second week, and a cathartic pill given *pro re nata*. The ergot was still further reduced in quantity until the end of the fourth week, when it was suspended entirely. At this time the appetite was good, and the general appearance indicated a return to perfect health. The urine was normal in quantity and quality.

Case II. (diabetes mellitus).—Male, be-

tween 35 and 40 years of age, laborer, and until a few years ago enjoyed excellent health. About a year ago his appetite was found to have increased very considerably, and with it his thirst was greatly augmented. Notwithstanding, he discovered he was losing flesh. The urine was light and clear and greatly increased in quantity, so much so as to necessitate his passing it five to six times a night; and it was shown by measurement that he voided from twenty-nine to thirty pints during twenty-four hours. He complained of muscular pains and some stiffness in the joints, but the suffering was inconsiderable from these causes. The first examination showed a specific gravity of 1031 and a considerable quantity of sugar. His bowels were opened with mass. hydrarg. and ext. colocynth. comp., each six grains, at night, and castor oil the following morning; and after its action, salicin and bicarb. soda, aa five grains every four hours. Ten days after, the quantity of urine passed in twenty-four hours was thirty-two pints, and contained thirty-one and four-tenths ounces of sugar, and he weighed one hundred and eighteen pounds. The use of salicin and soda was suspended, and arsenic, lactic acid, and opium in large doses were substituted separately and successively, and continued for twenty days, with varying advantage,—*i.e.*, the quantity of urine and amount of sugar increasing or lessening from time to time, until the former reached forty pints and the latter thirty-two and two-tenths ounces in the twenty-four hours. From the very favorable reports of the effects of codeia in diabetes mellitus, the foregoing articles were abandoned and the latter ordered in three-quarter-grain doses three times per day. In a week it was increased to one grain, and in ten days to one and one-half, and in two weeks to two grains *t. d.* At the end of third week the dose of codeia was reduced to one grain morning, noon, and night, as the amount of urine was nearly normal, the sugar had disappeared almost entirely, and the patient's thirst and dryness of skin had ceased to trouble him. His digestion had improved and his weight increased several pounds in the next fortnight, so that the dose of codeia was still further reduced to one-quarter grain *t. d.* During the treatment of the case a dose of mass. hydrarg. et ext. col. com., as at first, was given twice a week, and a tepid salt water bath, with the moderate use of the flesh-brush, resorted to once or twice per week until he was entirely well.

In the above typical cases two therapeutic agents stand forth as prominent factors,—*viz.*, ergot in the insipid and codeia in the saccharine variety of diabetes. The effects of these agents, respectively, in the two forms of the disease, after the use of other remedies of recognized value had been productive of but

little, if any, advantage, increase their claims to the consideration of the profession. Much credit is due to Prof. Da Costa for bringing ergot so clearly before the faculty.

THE DIFFERENTIAL DIAGNOSIS OF TYPHOID FEVER AND TUBERCULAR MENINGITIS.

BY LAMBERT OTT, M.D.,
Philadelphia, Pa.

MY attention has been called to this subject, at the bedside, by often noticing what a similarity of symptoms existed in the diseases in question in the incipient and more advanced stages. I, with other physicians, have left the bedside of a child presenting symptoms pointing to either disease, in which it was impossible to make a positive diagnosis. In both there are irritability, headache, vomiting, diarrhoea or constipation, loss of flesh, anorexia, and evidences of constitutional disturbances. In the incipient stage, when the child shows this array of symptoms, the physician meets with great difficulty in coming to a definite conclusion. Where the diseases are more advanced,—the case of tubercular meningitis being in a stupor and that of typhoid fever in a somnolent state,—our judgment is oftentimes taxed to decide. From full notes of a number of cases of typhoid fever and tubercular meningitis, ranging in age from 11 months to 8 years, I have formulated the following differential diagnosis:

INCIPIENT STAGE.

Tubercular Meningitis.

There is a gradual loss of flesh, extending over some weeks or months.

Irritability more intense and prolonged; restless during sleep.

Shunning light is common.

Temperature has no characteristic change; may be high in the morning and low in the evening, or the same morning and evening.

Vomiting causeless, and not connected with ingesta. May find a clean tongue.

Typhoid Fever.

Loss of flesh only apparent after fever-process has existed some time.

Irritability not so intense; quieter during sleep.

Absent.

Typical fever-curve; gradual ascent, having low fever in the morning and higher in the evening.

Vomiting nearly always connected with curdled milk or repugnant medicine. Coated tongue.

Tubercular Meningitis.

Headache not aggravated at any particular time of the day.

Nearly always constipation.

No abdominal tenderness.

Pulse of good volume, moderately slow, and occasionally irregular.

No epistaxis.

Tubercular Meningitis.

Irregular temperature curve or no fever at all.

Now the vomiting generally ceases.

Stupor is continual, patient not easily aroused, and immediately falls back again into his former state.

Obstinate constipation.

Retraction of abdomen.

Tache cérébrale; sudden and spontaneous blushing of cheek, and of parts exposed to pressure.

Cheyne-Stokes breathing.

Pulse very irregular.

Spleen normal.

Local palsies and local spasms; fixedness of the eyes; unequal or dilated pupil.

Extreme tenderness elicited on pressing the femur.

Urohæmatin, but no albumen or indican in the urine.

(Robin.)

One symptom—that of distress elicited by pressure on the femur—is an incidental

Typhoid Fever.

Headache always aggravated, towards evening, when the fever ascends.

Diarrhoea, as a rule; exceptionally, constipation.

Abdominal tenderness and tympanitis.

Pulse soft, rapid, and never irregular.

Often epistaxis.

ADVANCED STAGE.

Typhoid Fever.

Continued fever, stationary, or ascending gradually with the morning remission.

May have vomiting of ingesta.

Is easily aroused; remains awake for a time and requests drink. Is usually rational during the time of being awake.

Generally diarrhoea, yellow or brownish stools.

Tympanitis and tender abdomen.

Roseolar eruption.

Breathing at times very irregular, quite sighing, but not the rhythmical irregularity. One day regular, and the next very irregular.

Pulse weak and regular.

Spleen enlarged and tender.

No such manifestations.

No tenderness on pressure.

Indican and albumen always present in the urine.

(Robin.)

discovery of mine, and came to my notice in the following manner. While examining a case of tubercular meningitis in the stage of stupor, I was desirous of awakening the patient for the purpose of witnessing the mental phenomena. To accomplish this, I surrounded the thigh with my hand and squeezed it moderately hard, which caused the child to utter a piercing scream. As this seemed out of all proportion to the amount of injury inflicted, I repeated the pressure in a less degree, and the same outcry was provoked. Seizing other parts of the extremities with the same amount of force caused no disturbance whatever. I repeated the experiment in a second case, and found a similar manifestation, while pressure on other parts produced no such effect.

PHILADELPHIA, 1601 COLUMBIA AVENUE.

A CASE OF PROCTITIS AND PERITONITIS FROM RHUS-POISONING OF THE BUTTOCKS.

BY GEORGE B. DUNMIRE, M.D.

ON August 19 Mrs. C., æt. 30, with her family visited the East Park. In the evening, returning by way of a bridle-path, she had occasion to evacuate her bowels, after which the absence of paper was supplied by the abundance of foliage within her reach. Two days after this the woman's husband came to get a prescription to "kill poison." (I visited the place in the East Park, vicinity of the Dairy, and there found abundance of the *Rhus toxicodendron*.) August 22, four days after the handling of the leaves, I was called to see her. She was suffering from an eczematous eruption upon the skin. The sense of burning, the violent itching and swelling at times peculiar to it, with the pain, heat, fever, and vesication attending, she characterized as "awful." It had begun near or about the nates, extending over the vulva, which was greatly tumefied and painful, with a purulent discharge from the vagina. From these parts it spread all over the body, first on the face, evidently owing to the discharge from the primary trouble being carried by the hands. The face and lips were swollen so as to change the features, and what seemed new to observation was that the mucous membrane of the mouth and throat was inflamed and painful. From all these annoyances, so restless did she

become that scarcely for a moment could she be still, much less sleep.

Notwithstanding the remedies, which gave some relief, on the morning of the 1st of September (twelve days after the exposure) the poisonous action was still active, but had taken on a slow erysipelatous condition, particularly upon the hands, arms, and hips, and would not be headed off by frequently-repeated applications of tincture of iodine. At this time the patient complained of an uneasy feeling in the rectum, and also of bearing down, as if wanting to have an evacuation. This feeling was not relieved even after a large enema of sweet oil. So violent did the tenesmus become during the day that a neighboring woman insisted that she must be pregnant and aborting, and the doctor must be sent for. Hypodermic injections of morphia and suppositories of extract of hyoscyamus and opium had to be repeated to control the symptoms through the night.

Morning of September 2 the patient was found lying on her back, totally indifferent to her other trouble, with thighs flexed upon the pelvis. Great pain and tenderness over the bowels, particularly so on the left side, which afterwards extended over the abdomen. The lightest pressure would produce pain. The pulse and temperature high, having had a chill in the night. Opium was freely given, and locally turpentine stupes and poultices of oat-meal made with acetic acid and alum were applied constantly.

On third day of this abdominal trouble the pulse was quick and small, temperature lower, some anxiety of countenance, and sick stomach. These symptoms occasioned some fear for the result of the case. After more than five weeks from the beginning of the rhus-poisoning, the patient recovered.

Because of the dangerous character of the later trouble, the skin affection was lost sight of, but greatly improved, the skin desquamating in large flakes.

Was this not a case of proctitis and peritonitis by contiguity of tissue by way of the pelvic organs,—a peritonitis which seems most amenable to treatment, and resulting, too, from the poisonous toxicodendric acid?

DR. JOSEPH HEARN has been elected one of the attending surgeons to the Philadelphia Hospital.

NOTES OF HOSPITAL PRACTICE.

PHILADELPHIA HOSPITAL.

SERVICE OF H. C. WOOD, M.D.

Reported by JAMES P. TUTTLE, A.M., M.D.

CONTRACTURE OF A SINGLE MUSCLE FROM SPINAL INJURY: RELIEVED AFTER SIX YEARS—EPILEPSY FROM CICATRICES—SOFTENING AND BREAKING DOWN OF INTERNAL CAPSULE AND LENTICULAR BODY, PROBABLY FROM EMBOLUS.

T. M., æt. 28, Irish, groom; was always healthy till the accident which produced his present trouble. He drank some, but not excessively, before this time. Six years ago, while training a horse in Ireland, he was thrown off by the animal jumping a stone wall. Falling near the wall, a stone displaced by the horse's hoof struck him on the back of the neck in the region of the sixth and seventh cervical vertebræ.

He was never unconscious, but was completely paralyzed from the shoulders down for several months. His urine was drawn for three months, but control of the bowels, which was at first lost, was soon restored.

About seven months after the accident he began to move his right leg a little. Soon afterwards some motion of the right arm was restored, and gradually he improved, until, the ninth month from his injury, he was able to stand and walk a few steps. It was two years before he could resume his work at all, and then he was compelled to give it up on account of his inability to open and shut his left hand with any ease. He was treated for this in a Dublin hospital, and afterwards by his family physician, but without success.

When admitted to this institution, he was suffering from a slight lumbago, which was soon relieved by appropriate means. At the same time he complained of inability to open fully his left hand. Close examination revealed the following condition.

There was slight, if any, loss of power in the hand or arm. The patient could extend the hand if the fingers were flexed, or the fingers if the wrist was flexed, but he could not possibly extend them both at once; and the partial opening and closing of the hand, which by effort he could accomplish, was so slowly and imperfectly done as to render the hand of little use to him. Directing him to extend the hand and fingers as far as possible, the flexor profundus digitorum was found to be tense, hard, and inextensible from its origin to its insertion. Otherwise he was perfectly

healthy, beyond a slight tenderness in the post-cervical region.

Iodide of potassium, arsenic, and mercury were tried separately and combined; the arm was rubbed with stimulating lotions, and the battery systematically applied for seven weeks, but with no improvement. As a last resort before tenotomy, the forearm was bandaged, with hot poultices to the contracted muscle, for four days, and then well wrapped in cotton batting for one week, daily effort at forcible extension being made, and the patient instructed to flex and extend the hand and fingers constantly during the day. At the end of this time he was able to get them almost straight with effort, and the poultices were reapplied for two days, but without a marked improvement. Under continued effort of the patient and the use of the faradic current to the extensor muscles of the hand, the patient slowly improved until the third month, when he was discharged able to extend his hand almost straight and with a moderate degree of rapidity. He has since been seen, and is using his hand with much satisfaction to himself, the cold affecting it little more than it does the other.

Case II.—T. N., æt. 50, Ireland, carriage-driver; has been a hard drinker, but was always healthy until five years ago, when a team ran away with him and threw him off his carriage upon the pavement-corner. His right leg was broken and his scalp was cut in several places in the right superior parietal and occipital regions. He was unconscious for two days, and when he recovered consciousness he was unable to use his right arm or leg, and had the sensation of pins and needles sticking in them. The paralysis passed off in about five weeks. He said his memory and power of speech were much impaired from this time forward, and, indeed, they were found quite deficient on admission to the hospital. During the following three years he had several "spells," and a year ago he began to have epileptic paroxysms, which increased in frequency until they occurred once every month, and sometimes much more frequently. Four weeks ago he had one on the street, and, falling, hurt his leg so that he was sent to the surgical ward of this hospital for its treatment. While here he had two paroxysms, and as soon as able was transferred to the nervous ward. Subcutaneous section of the cicatrices was at

once decided upon, and done on the 4th of February. The scalp was kept freely movable by daily manipulation, and the patient recovered from the operation without a single bad symptom. From the day of the operation there was never a sign of a paroxysm, and the patient was sent to the almshouse department some four weeks later, feeling better than he had for four years past. Here he remained three weeks without an attack, and died very suddenly while taking a bath one day. The attendant avers that there were no convulsions or rigidity when he found him, less than two minutes after he (the patient) entered the bath-room; and his physician, who saw him some few minutes later, found no evidences whatever of an epileptic convulsion. The case was greatly improved, if not *cured*, and that, too, by the operation, as no medicines of any description were given him for nearly four weeks after it.

Case III.—M. J., female, colored, domestic habits; had always enjoyed good health until November 15, 1881. At this time, while talking to a friend, she felt a slight pain in her head, and suddenly lost power and control of her left arm and leg. Her mouth was drawn up to the left; she was never unconscious, and when she was admitted to the hospital the above condition of hemiplegia was found to exist. Sensation was not impaired, but the power of motion in the left side was completely lost. Patellar tendon reflex was exaggerated on the *left side*, but remained about normal on the right. There was no ankle clonus present. The area of cardiac dullness was slightly enlarged, and there was heard a strong mitral murmur upon auscultation. She remained in the wards under tonic treatment and the iodides, but without improvement, until January 15, 1882, when she suffered from an acute attack of catarrhal pneumonia. From this she soon recovered, and on the 19th of February began to suffer with the heart-affection from which she died some four days later.

A post-mortem held twenty-two hours after death revealed the following conditions. Slight pericardial effusion; ante-mortem "chicken-fat" clots in the right side of the heart, one of which extended from ten to twelve inches into the pulmonary arteries. Quite a large organized clot was found in the left side of the heart. There was great thickening of the *mitral*

valves, but nothing wrong apparently with the semilunar or tricuspid. There was a small cavity in the apex of the right lung, probably due to the breaking down of an old capillary bronchitis, as there were no other evidences of phthisis present. There was no meningitis, but the arteries at the base of the brain were bleached and presented numerous points of yellowish thickening, especially upon the right side. One of these atheromatous points amounted to almost occlusion of the right middle cerebral artery just before its entrance and division in the fissure of Sylvius. There was found upon the right side of the brain a cavity formed by softening and breaking down of nervous substance in the *posterior portion of the internal capsule and lenticular body*, about one and one-half inches back of the anterior border of the caudate nucleus and one-quarter inch below the floor of the lateral ventricle. The cavity was about the size of a hazel-nut, and circumscribed by a centre of softening involving the entire breadth of the internal capsule and lenticular body, and also the posterior portion of the crus cerebri of that side. The mode of occurrence and the nodular, atheromatous condition of the cerebral vessels render it more than probable that the lesion here was embolic. It is interesting to note, also, that there was no atheroma of the aorta or other vessels in the thorax.

ALLGEMEINES KRANKENHAUS, WIEN.

SERVICES OF PROFS. SPAETH AND BRAUN.

Reported by Dr. W. W. JAGGARD.

FOUR CÆSAREAN SECTIONS.

CÆSAREAN section, even in Vienna, is an operation of so rare occurrence that it always attracts attention. During the past month so many as four operations have been performed. Three occurred in the service of Prof. Josef Spaeth, one in that of Prof. Gustav Braun.

I. The first operation—"Porro's *sectio Casarea*, with *supravaginal amputation of the vaginal portion*, and *Müller's modification*"—was indicated by a high degree of pelvic contraction, resulting in the production of the pelvis of Robert, and has eventuated in the entire recovery of the mother. About the third week after the operation the child died in the Foundling Hospital. This news, inadvertently con-

veyed to the mother, caused a temporary fluctuation of temperature, which lasted two days. With this exception, the temperature did not rise above 37.5°C .; the pulse did not reach greater frequency than 70 during the entire period of recovery. A small quantity of bloody mucus was daily discharged from the vagina.

Upon the day following the operation, consecutive hemorrhage from the pedicle in the abdominal wound occurred, which was promptly arrested by tightening the chain of Billroth's *écraseur*, which was left around the stump in the abdominal incision. The consecutive hemorrhage and the slight rise in temperature in the third week were the only unfavorable symptoms occurring during the last month.

The present condition of the patient is all that can be desired. The wound in the abdominal parietes is healed entirely, with the exception of a small point, one-eighth inch square, in the lower angle, which is granulating. She eats with relish the regular full hospital meal, though she is still in bed.

II. Prof. Spaeth's second operation was performed upon a dead woman, in accordance with the Austrian law. The oldest law which forbids interment of a pregnant woman before removal of the foetus from the uterine cavity is the "*Lex Regia*" (673 B.C.). The Austrian law decrees as follows: "Upon women dying in the second half of pregnancy, in conformity to existing laws, Cæsarean section, with all the caution and attention as upon living pregnant women, must be performed, in order, if possible, to save the fruit, or at least, with those of Christian faith, to be able to recognize it as living and to baptize it." (1798.)

The law commands that Cæsarean section shall be performed upon the dead, but not upon the apparently dead or dying, and does not speak more particularly of the time at which the operation must be undertaken. The death of the woman must be demonstrated by absolute suspension of respiration and cardiac action; after which the physician must explore the vagina and ascertain accurately whether the os uteri has not opened during death, or at least become dilatable, so that by the application of the forceps, or by podalic version with subsequent extraction, the birth of the child in a natural way may be secured.

If these means are impracticable, *sectio Cæsarea* must be performed.

When there is the least doubt as to the apparent death of the mother, even if the foetal heart is heard to beat, *sectio Cæsarea* for the benefit of the child to the detriment of the mother can never be undertaken.

Nehr, Peu, Trinchinetti, Bodin, Fraak, Rigadeaux, D'Outrepoint, Härlin, and Hohl have recorded cases of Cæsarean section upon apparently dead women, who awoke during or some hours or days after the operation.

The patient in the present case was a white woman, 35 years old, multipara, in the eighth month of pregnancy. She was slightly paralyzed in the right upper and lower extremities, with contraction of hand and foot. She had been for years epileptic. Forty-eight hours before her death she had a convulsion, which the nurse supposed was an epileptiform seizure and paid no attention to it. The convulsions became more frequent and severe, until eclampsia was suspected; and upon investigation of the urine it was found to be albuminous and loaded with casts.

The convulsions in the last twenty-four hours, occurring at intervals of ten minutes, were severe, but were controlled by chloroform inhalations and hypodermic injections of morphia. The foetal heart could be heard beating regularly until within sixteen hours before death, at which time the amniotic fluid became discolored and offensive.

A final convulsion completed the history, and respiration and cardiac action were found absolutely suspended in the mother's body.

The os uteri was found undilated and not dilatable. Cæsarean section was at once performed as carefully as upon a living body, resulting in the extraction of a dead foetus with commencing maceration. After sewing up the abdominal incision the body was watched until decomposition had set in, and forty-eight hours after the operation, in conformity with the law, was buried.

Horwitz and Garezyk have collected 379 cases of post-mortem Cæsarean section, in which 308 children were born dead, 37 with signs of life, 34 (11 per cent.) actually living; of this latter number only 5 (1 per cent.) survived.

Experiments upon animals have estab-

lished the facts that the fruit survives the sudden death of the mother; that the extraction in the first six minutes gives hope of a living foetus, between six and ten minutes a slightly asphyxiated one, between ten and twenty-six minutes a profoundly asphyxiated product, which will die; that the products of conception often, in the first minute after the death of the mother, die; that the method of death of the mother exercises an important influence over the duration of life of the foetus, that death of the mother through swiftly-working poisons has a more favorable influence upon the foetus than from other causes, and that in all most different causes of maternal death the foetus is asphyxiated.

III. Prof. Spaeth's last Cæsarean section, occurring one week ago, was especially interesting. The patient, 35 years old, white, native of Lower Austria, multipara, became pregnant towards the close of last summer. During the entire term she noted the persistence of the menses. In last January, after coitus, her husband called her attention to a very severe hemorrhage, which otherwise, so far as subjective impressions were concerned, was not noticed by the woman herself. At no period was any pain felt in the uterine region. She applied for admission into the hospital on account of the frequently recurring hemorrhages from the genitals, as well as to be delivered.

Examination by abdominal palpation revealed twin pregnancy in the eighth month. Vaginal examination revealed a large, very vascular cauliflower cancer of the cervix uteri, infiltrating the fornix vaginæ. The tumor, the size of a large clinched fist, had obliterated every trace of the cervical canal and caused considerable distention of the vagina.

Cæsarean section was decided upon at as early a period as practicable,—*i.e.*, when labor-pains would be sufficiently active to secure uterine contraction if the old method of operation should be selected.

Two weeks after her admission into the hospital the feet were noted to swell, while shortly later general anasarca obtained. The urine became albuminous, and contained a few casts. A condition of intense hydræmia followed, with the production of a typical cachectic skin.

During the last two weeks of her stay in the hospital she suffered considerable pain apart from those peculiar to her pregnant

condition. Upon last Saturday labor-pains became suddenly severe, and the operation was at once performed.

Dr. Ehrendorfer, second assistant, operated, while Profs. Spaeth, Gustav Braun, Weinlechner, and Salzer assisted.

After chloroforming the patient, the external abdominal incision, extending from os pubis to umbilicus, was made slowly; the peritoneum was carefully slit up and down with a blunt-pointed episiotomy knife; the uterine tumor, coming into view, was rapidly incised from fundus to orificium internum, while the entrance of foreign matter into the peritoneal cavity was prevented by compression of the abdominal walls around the uterus. Müller's modification was not employed. The children were rapidly removed through the incision, considerable difficulty being found in the extraction of the second, which was already engaged in the pelvis: the presentation was a double breech. When the placenta had been removed, a rubber tube was applied around the supravaginal portion, made taut, and the uterus lifted out of the abdominal cavity; firm contraction of the organ was obtained by Prof. Spaeth grasping it and squeezing it with rapidly renewed ice-cold thymol cloths. The uterine incision was sewed up with five deep, four superficial, *catgut stitches*, largest size of Lister's antiseptic chromic acid ligature. After the uterus was firmly contracted, the rubber tube was removed and the organ returned to the abdominal cavity. Owing to the favorable attachments of the placenta, and the employment of the rubber tube, no hemorrhage of any degree had occurred. As the amniotic fluid had all escaped through the abdominal incision, the *toilette* of the peritoneum was simple and quickly performed. Hypodermic injections of Bombelon's ergotin appeared to aid materially in securing uterine contractions while that organ was outside of the abdominal cavity.

The abdominal incision was sewed up with silk suture covered thickly with iodoform powder. Over the iodoform a mackintosh was placed, and over this rapidly renewed ice-cold thymol compresses were applied. These compresses were constantly renewed, until the uterus was felt as a firm round ball in the abdominal cavity.

The pulse of the patient seemed better after than before the operation, while temperature and respiration were normal.

Before putting her in bed, the vagina was thoroughly douched with carbolic-acid water.

The children were extracted living, and crying lustily. They were males, each weighing 1450 grm., one 45 cm. in length, the other 40 cm.

Symptoms of peritonitis developed themselves late upon the day of the operation in the mother, and forty-eight hours later she died.

The autopsy was surprising in its revelations. Every catgut suture in the uterine tissue was found untied and straightened out, while the wound was open and gaping, the lochial discharges having escaped into the peritoneal cavity. Prof. Weinlechner tied the original knots in the catgut with especial care, so that improper application could not be adduced as palliating the inefficiency of the catgut. The cauliflower carcinoma was found to have reached the orificium internum, infiltrating the vagina; the abdominal lymphatics were enlarged, many of them presenting carcinomatous appearances.

IV. Prof. Gustav Braun's recent Cæsearean section was performed under the indication of a pelvis contracted in all diameters, the patient being a dwarf. Porro's supravaginal amputation of the vaginal portion was modified in one or two particulars. After amputation of the vaginal portion, the stump was transfixed with silk sutures, thoroughly cauterized with Paquelin's thermo-cautery, and dropped back into the abdominal cavity.

The patient died the same day, of consecutive hemorrhage.

In all abdominal operations the carbolic acid spray has been set aside by Profs. Billroth, Carl and Gustav Braun, and Jos. Spaeth.

UNIVERSITY HOSPITAL.

SERVICE OF DR. WM. GOODELL.

Reported by Dr. THOS. D. DUNN, Resident Surgeon.

TWO LARGE OVARIAN TUMORS.

CASE I.—Mrs. O., æt. 31, married, and has two children, the youngest of whom is 3 years of age. Ten years ago she first noticed tumor of abdomen; but it did not materially increase in size until after the birth of last child. She menstruated regularly, and suffered no pain. When admitted into hospital (February 8), she could not walk without assistance. She

was extremely emaciated, nervous, and excitable; expression haggard; skin dark and clammy; lower extremities cold and œdematous; pulse feeble and rapid; respiration shallow and frequent; measurement around abdomen sixty-one and one-half inches; from ensiform cartilage to symphysis pubis forty inches; height sixty-five inches. Two days later it was removed. The tumor consisted of one large mother cyst, with numerous child cysts of right ovary, filled with colloid fluid. It had not been previously aspirated, and there were but few adhesions. Abdominal walls were very thin, and belly was left exceedingly scaphoid. Base of thorax was so enormously expanded by pressure of growth that apex-beat of heart could be felt under and a little to left of posterior surface of ensiform cartilage. The fluid with sac weighed one hundred and twelve pounds; woman, with dressing and clothing, seventy-five pounds. Pulse and respiration improved with the evacuation of fluid. The highest temperature was 100.4°, the second day after operation. The recovery was rapid, and she was discharged on the twenty-first day after operation, weighing ninety pounds. She wrote four weeks afterwards that her weight was one hundred and nine pounds, or a weekly gain of about five pounds.

Case II.—Mrs. M., æt. 30, married, and had four children. March, 1878, began to have pain in right ovary, but tumor did not appear until one year ago. Menstruation ceased at the same time. It was aspirated in November, again in February. When admitted (March 23), her condition was wretched: pulse rapid and almost imperceptible; pale and emaciated; belly enormously distended; extremities cold but not cedematous. Scarcely was operation begun when pulse and respiration failed. Subcutaneous injections of ether, alcohol, and brandy were repeatedly required. The tumor was an enormous racemose multilocular cyst of right ovary, several of which burst during retraction into cavity of abdomen. Owing to hemorrhage from bad hepatic, omental, intestinal, and parietal adhesions, a drainage-tube was required. The tumor weighed about eighty-five pounds; woman, seventy pounds.

She did very well until fourth day, when temperature rose to 105°; pulse, to 150. The fifth day, temperature and pulse the same, left parotid greatly swollen, and a

marked tendency to diarrhoea. A few days later, the parotid abscess opened in ear, and an external incision was also made. Digitalis, brandy, and quinia were given freely, and her condition commenced to improve. She left the house April 9, convalescing.

The interesting feature of the case is the rapid improvement after marked symptoms of blood-poisoning. In both cases the spray was used and Listerism observed in detail.

NITRO-GLYCERIN IN PUERPERAL CONVULSIONS.—A very interesting and instructive case is reported by Mr. W. E. Green (in the *British Medical Journal*, April 22), in which the internal administration of nitro glycerin was followed by very good effects. The case, a primipara, had been in labor for some time, and in consequence considerable anxiety was felt. The physician was finally summoned, with the request to go immediately, as the patient was in convulsions. He says, "On my arrival, I found her lying on the floor in convulsions, which, however, were less violent than they had been. On their first appearance, the midwife had, with considerable presence of mind, applied sinapisms to the calves of the legs and to the nape of the neck: the patient had been convulsed an hour. I had her placed in bed, and, finding the head of the child well down upon the perineum, I requested Dr. Barker (then present) to apply the forceps and deliver at once. The removal of the placenta was followed by a short rush of blood, which soon stopped. The convulsions had ceased before the application of the forceps, but the unconsciousness remained. The pulse was quick and of high tension; the face and eyelids puffy; the legs œdematous, and pitting deeply upon pressure, whilst the feet were cold. Leaving the case in charge of my partner, I ordered a mixture containing eight minims of a solution of nitro-glycerin (one per cent.) in an ounce of water, with instructions to give a teaspoonful every hour until the evening. The first dose was given to the patient about two and a half hours after the commencement of the attack, the coma being then as profound as at any time: within ten minutes of taking it, the patient regained perfect consciousness, and asked questions about her confinement and child, of which, till then, she had been oblivious. Four or five doses of the mixture were given, and when seen again during the evening she had a soft quiet pulse, and was quite comfortable in other respects. The first urine we were able to obtain showed, upon examination, at least two-thirds of albumen; and upon inquiry we found that this secretion had been scanty for some months, and that there had been also considerable anasarca of the lower extremities. The pa-

tient made a tedious recovery, and it was fully six weeks before all trace of albuminuria disappeared. The pulse-rate and temperature remained abnormally high for some time, and at length it was necessary to wean the baby; after which the patient's progress was more rapid, and at the present time she is in better health than she has been for years."

SMALLPOX IN BIRDS.—Dr. Hewson, of Philadelphia, claims that he has traced this disease to the English sparrows' nests. The senior editor of the *Pittsburg Medical Journal* has seen the eruption of smallpox among the poultry of a family he was attending for that disease, in 1849. The disease was manifested principally on the head and comb of the fowl, and the parts beneath the bill not covered with feathers. These parts were covered with pustules resembling those met with in the human subject, closing the eyes and swelling the head to double its former size. The disease appeared to be contagious, and was quite fatal.

The *British Medical Journal* contains some very excellent remarks on this subject. In a recent publication issued by the Washington Board of Health, attention is drawn to it. It stated that in Europe and Hindostan variola is so common in pigeons and poultry as to constitute a veritable plague. Thus, Guersant records that out of a dove-cot of one thousand scarce one hundred could be found that did not bear marks of the disease; while Tytler says the poultry-yards in India were habitually depopulated by the plague. Bechstein and others claim that it is the true smallpox derived from the human being, and conveyable back to man; while others, like Foggia and Gilbert, assert that it is communicable to the sheep. That this affection has not been recognized may be due to a difference in the environment which modifies the infection, or perhaps to the fact that men and pigeons do not live so much in common here as in Italy and India. Such an occurrence under Italian skies should, however, demand a careful investigation into the reality of such affection in the United States (and especially in the Southern ones) during the prevalence of an epidemic of smallpox, so that whatever danger arises from this source may be detected and guarded against.—*St. Louis Clinical Record*.

MEASLES AT PLAINFIELD, N.J.—An epidemic of measles has been prevailing in Plainfield, New Jersey, remarkable for the great number of cases, the number reported being as high as 1000, out of a population of 12,000. Only eight or ten deaths have thus far occurred, however, and the disease seems to be dying out. The disease has prevailed also in other New Jersey towns to an alarming extent.

DR. GRAY, of Utica, has sufficiently recovered to be out, and his would-be assassin has been legally decided to be insane.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JUNE 17, 1882.

EDITORIAL.

TESTIMONIAL TO PROF. JOSEPH LEIDY.

ONE of the unhappy features of our system of government is that there is no pension-fund wherewith to reward great achievements in science or literature and to aid in maintaining him who has spent his labor and life for the good of others. In the case of the late Prof. Henry, private munificence did what it should be the function of government to perform. A large sum of money was raised among the patrons of science and put into trust, the interest to be yearly paid to the family of Prof. Henry so long as any of them should live, and, at the decease of the last child, the principal to become an endowment, under the charge of the National Academy of Science, for the aiding of original research.

There is in this city a man whose direct contributions to science have certainly been more abundant than those of Prof. Henry, whose fame is world-wide, whose life has been spent in working out knowledge, not in quarrying gold and silver, and who now approaches the time of life when in England the civil service fund or some government sinecure would enable him to spend all of his remaining hours in the use of his trained faculties for research. For thirty years Professor of Anatomy in the University of Pennsylvania, and, in addition, during the last twelve years the incumbent of the chair of Natural History in Swarthmore College, surely the time has come when Prof. Joseph Leidy ought to be relieved of all elementary teaching, and have a sufficient secured income to relieve him of all pecuniary care. To do

this, it is proposed that the sum of one hundred thousand dollars shall be raised, the interest of which shall be annually paid to Prof. Joseph Leidy during his lifetime, and after his death shall be applied in perpetuity to the maintenance of the Joseph Leidy Chair of Anatomy in the University of Pennsylvania.

Subscriptions to this fund will not be binding until the amount of twenty-five thousand dollars is secured, although it is hoped they will be paid promptly; as they will then be invested immediately and become effective. Subscriptions may be made payable during the present year, or in two annual instalments.

All subscriptions should be sent directly to William Pepper, M.D., 1811 Spruce Street.

A GROSS PROFESSORSHIP IN JEFFERSON COLLEGE.

THE endowment of a Chair of Pathological Anatomy in honor of Samuel D. Gross, Emeritus Professor of Surgery in the Jefferson Medical College, has been attempted by the Alumni Association of the school, and we hope it may be successful. It is a project which has been under consideration by some members of the Alumni Association ever since the resignation of Prof. Gross was announced. At a social meeting of the executive committee, held May 23 at the College of Physicians, at the suggestion of Prof. Da Costa a resolution was adopted appointing a committee to bring the subject before the Alumni Association. A special meeting of the Association was held on May 30, to which all resident graduates of the school were invited, which was also at the Hall of the College of Physicians. Dr. Addinell Hewson presided at the meeting, which was well attended, and the members present seemed unanimously and enthusiastically in favor of paying such a well deserved honor to Prof. Gross.

The executive committee of the alumni also reported that the sum of two thousand dollars was promised by an alumnus at a late meeting of the executive committee as soon as the fund should reach eight thousand dollars.

Dr. R. J. Dunglison was authorized to receive subscriptions until the appointment of the trustees.

From the spirit manifested by those having the matter in charge, and the warm reception given to the project by the friends of Prof. Gross and the school, there can be no doubt that this endowment fund will soon be subscribed and offered to the trustees of the College. If accepted by them,—of which there is little question,—it is evident that a movement will next be made towards endowing all the remaining chairs in the College.

CORRESPONDENCE.

THE AMERICAN MEDICAL ASSOCIATION.

ST. PAUL, June 9, 1882.

THE American Medical Association completed its labors this morning, after a session remarkable for its numerical proportion, the attendance of delegates and members being unexpectedly large. The estimate had been based on a prospective gathering of four or five hundred; but when the registration closed, the magnificent total of nine hundred and fifty-three had been reached. It must not be supposed that the promotion of medical science was wholly the moving cause of so extraordinary an incursion into this thriving town of the great Northwest, giving to this annual meeting of the Association the distinction of being the largest convention ever held by it, excepting only that at New York in 1880. The two elements of this numerical success were the expectation of a square fight on the question of ethics,—if we may employ such language,—and the promises so lavishly guaranteed of railroad transportation gratuitously to the extreme limits of civilization northward and northwestward. Railroad-passes to members and their families—representing perhaps to each individual in value a sum of forty or fifty dollars, and conveying them to regions hitherto deemed too remote for their wildest imagination—had been freely offered by the different companies;

and Manitoba and the Yellowstone will now become familiar to fifteen hundred or more representing the medical profession, and the wives and daughters of medical men, to whom they were known only by name, and scarcely at all by geographical position. I cannot say with any definite knowledge what was the scientific character of the various papers presented in the Sections, or of the discussions which they elicited. Many of the well-known frequenters of these annual meetings were absent, probably on account of the distance; and the calibre of the new element introduced into the Association representative of the Northwestern States was probably exhibited to advantage, as the earnest professional laborers in the field of practice were here, ready to communicate their fruitful experience, just as they are always present at every Association meeting.

Those who came to St. Paul in the expectation of witnessing a combat of words and a collision of forces upon the issue offered by the supporters of the New York Code must have been disappointed at the quiet manner in which, under the organic law of the Association, such anticipated troubles were dispelled. The Judicial Council was originally instituted with the view of having referred to it for final settlement all subjects of dispute that might otherwise ruffle the calm serenity of the sessions of the general body. All protests against individuals or associations are at once referred to it, and its decision is conclusive and without appeal. The Committee on Credentials was therefore fortified by the adverse decision of the Council to reject all those who presented themselves as delegates from the State Society of New York; and here the matter ended, and did not again arise to the surface at any session of the Association. A similar fate attended the settlement of the question of the employment or recommendation of trade-mark medicines, which it was decided by the Judicial Council should not be adopted by the Association, inasmuch as the resolution includes matters not referred to in the Code of Ethics, and said Code contains all that is necessary for the guidance of the medical profession.

Probably at no preceding meeting had the secular press heralded the advent and doings of the members of the Association with more peculiar phraseology. In bold capitals, startling in their intensity, we have read within the few days past such attractive headings, in the reports of their sessions, as "Life-lending Leeches," "The Esculapian's Eden," "The Grand Feast of the Big Medicine Lodge," "Gathering of the Clans," "Adieu the Omnipaths," and other striking display-lines equally formidable. Never have the minutes of the general sessions of the Association in the mornings or of the afternoon work of the Sections been so thoroughly reported in the columns of the daily press as they have been

by the enterprising papers of St. Paul. The Association recognized this fact by formally giving to them, for general diffusion, the report of the committee on the establishment of a new journal.

The meeting opened on Tuesday, June 6, and, after the usual preliminaries of welcome, protests were read from all sections of the country against the admission of the delegates from the New York State Medical Society, and these were supplemented by a letter from Prof. Gross, addressed to the President of the Association, regretting his unavoidable absence and severely animadverting on the course of the framers of the new Code. Dr. Sayre's letter of declination of an appointment to represent that Society was also read, in which he criticised its course in sending representatives to a body whose laws they had refused to obey. So that altogether the pulse of the Association was felt at an early stage of the proceedings, and its temper and intentions clearly diagnosed. Dr. P. O. Hooper, of Arkansas, First Vice-President, in the absence of Dr. J. J. Woodward, President, in Europe, delivered the annual address, in which he alluded to the various subjects which had engrossed the attention of the Association since its inception, and to the part taken by it in the introduction of sanitary laws in the various States. He also urged the establishment of a medical journal as the organ of the Association, and deprecated with much force the efforts recently made to oppose and set at defiance the Code of Ethics which had so long been the standard for the medical profession of this country. To Dr. Hooper much credit is due for the dignity and decision with which he presided.

A telegraphic message of sympathy in response to a letter of regret from Dr. Woodward at his enforced absence, the reading of resolutions based upon a temperance standpoint as to the employment of alcohol in therapeutics, and of an invitation from Atlantic City for a meeting of the Association at that place in 1883, and the calling of the roll of members and delegates present, completed the proceedings of the first day. On the second day of the session the Committee of Nominations was appointed, and at once entered on their duties, which were performed, I am told, with even greater harmony than usual. Dr. Packard, of Philadelphia, then read the report of the committee appointed at the last annual meeting in regard to the journalization of the transactions of the Association. As this committee was instructed to report a plan, and not to express an opinion as to the desirability of publishing a journal, its report was strictly business-like in its character, and suggested practical measures for the setting on foot of such an enterprise. It gave estimates for the cost of a weekly journal, and proposed changes in the mem-

bership of the Association, fixing the price of subscription to the journal at a lower rate to its actual members, but throwing open the membership to all those connected with State and county medical societies upon application and the payment of an annual fee. It was also shown that if three thousand members of the profession should become subscribers to the journal the mere expenses of that publication would be provided for, independently of all consideration as to the remunerative features of the advertising columns. It was suggested that the Association should be incorporated, and that a board of trustees should be selected, to whom should be intrusted the appointment of an editor and the general control of the journal, which should be called "The Journal of the American Medical Association." The interest of the profession at large was to be solicited by circulars forwarded by the trustees to physicians in every section of the country.

On the same morning an effort was made to alter the organic law* so that permanent members should have the right to vote at the annual meetings, a right hitherto denied them. The proposed amendment was lost, chiefly through the excellent remarks of Prof. N. S. Davis, of Chicago, who claimed that every member present is represented in the State Association of which he is a member. If every member of the National Association were allowed to vote, it would destroy the State and local societies, as it now is by means of the State Association delegates that all national movements in medical matters are conducted. Take away the right of doing this from the States by allowing all to vote, and you destroy at once the State societies. If those attending are not represented properly by the delegates from their States, discipline them in your State societies; send delegates who will talk and act aright. The present method, he said, has maintained a high morality and Code of Ethics. It has unified the profession, and brought it to a higher plane of thought.

Dr. J. A. Ochterlony, of Louisville, Ky., then read the annual address of the chairman of the Section of Practice of Medicine, and Dr. H. O. Marcy, of Boston, Mass., that of Obstetrics, both of which were excellent papers, and were attentively listened to by the large audience present. The Judicial Council presented a report in regard to various matters assigned to it for consideration.

On the third morning (Thursday) the Committee of Nominations made its report, presenting names of officers of the Association, which, on the final adoption of the report on Friday morning, are as follows:

President—Dr. John L. Atlee, Pennsylvania.

First Vice-President—Dr. Eugene Grissom, North Carolina.

Second Vice-President—Dr. A. J. Stone, Minnesota.

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Third Vice-President—Dr. J. A. Ochterlony, Kentucky.

Fourth Vice-President—Dr. H. S. Orme, California.

Treasurer—R. J. Dunglison, Pennsylvania.

Librarian—C. H. A. Kleinschmidt, Washington, D.C.

Members of Judicial Council—N. S. Davis, Illinois; J. M. Brown, United States Navy; X. C. Scott, Ohio; M. Sexton, Indiana; N. C. Husted, New York; William Lee, Maryland; J. E. Rives, West Virginia.

OFFICERS OF THE VARIOUS SECTIONS.

Practice of Medicine—J. H. Hollister, Illinois, chairman; J. G. Lee, Pennsylvania, secretary.

Surgery and Anatomy—W. F. Peck, Iowa, chairman; Paul F. Eve, Tennessee, secretary.

Obstetrics—J. K. Bartlett, Wisconsin, chairman; G. A. Moses, Missouri, secretary.

Medical Jurisprudence and State Medicine—Foster Pratt, Michigan, chairman; Thomas L. Neal, Ohio, secretary.

Ophthalmology, Otology, and Laryngology—A. W. Calhoun, Georgia, chairman; Carl Seiler, Pennsylvania, secretary.

Diseases of Children—R. Blount, Indiana, chairman; J. H. Sears, Texas, secretary.

Dentistry—D. H. Goodwillie, New York, chairman; T. W. Brophy, Illinois, secretary.

Committee on Necrology—J. M. Toner, District of Columbia.

Committee on Publication—Albert Frické, chairman, W. B. Atkinson, R. J. Dunglison, J. Solis Cohen, F. Woodbury, J. H. Packard, J. V. Shoemaker.

Assistant Secretary—I. N. Hines, Cleveland, O.

Dr. Keller, of Arkansas, protested against the violation of the amendment which provides that no person shall be elected to office who is not present, except in the Committee of Arrangements. He moved that it be reported back to the committee for corrections, —which motion was carried.

It may be briefly stated that an amendment was adopted last year at Richmond, at his suggestion, restricting these appointments to those present at each annual meeting. The result is not satisfactory in this first year of its working, and the activity of the Association may be seriously affected by its enforcement,—so much so, indeed, that an effort to modify this amendment will be made at the meeting in 1883. Death or sickness, or other physical disability, must, under the present rigid construction, preclude the most worthy officers and committee-men of the Association from continuing their usefulness to it. Dr. William Lee, the valued and efficient Librarian of the Association, who has for many years unselfishly devoted himself to the thankless position, to which no salary was attached, was the first one decapitated under this unwise amendment.

Dr. N. S. Davis, after alluding to the numerous and valuable papers published at various times in the transactions of the Association, offered the following resolutions, which were unanimously adopted, in regard to the publication of a medical journal. I send them to you in full, as they explain so clearly the future of that important enterprise, as outlined at its inception:

"*Resolved*, That the interests of the Association would be promoted by the publication of its transactions in a weekly medical journal under its own control, instead of in an annual volume as heretofore, provided it could be done without involving pecuniary embarrassment, or so far engrossing its funds as to prevent the annual encouragement of original investigations by its members.

"*Resolved*, That so much of the report of the committee on journalizing the transactions as relates to the increase of membership of this Association by applications from members of State and local societies be and the same is hereby approved.

"*Resolved*, That so much of the report of the committee on journalizing the transactions of the Association as relates to the appointment of a board of trustees, nine in number, and their duties, be and the same is hereby adopted, and that the President of the Association now appoint a special committee of seven to recommend to this meeting of the Association the names of nine members for election to constitute said board of trustees.

"*Resolved*, That the board of trustees so appointed be requested to present, as early as possible to agree upon, a plan of a medical journal, to be called the *Journal of the American Medical Association*, and to send circulars explaining such plan and asking pledges of support by actual subscription to the members of the medical profession throughout the whole country, and thereby ascertain, as reliably as possible, what degree of support the proposed journal can have as a basis for commencing its publication. And that said board also proceed to ascertain and agree upon the best methods of publishing said journal, the best editorial services it can secure to take charge of the work, and the best plans for its issue.

"*Resolved*, That said board of trustees be and are hereby instructed, under all circumstances, in whatever plans or contracts it proposes to adopt, to retain the entire control over the use of the advertising as well as of all other pages of the journal that is proposed to be established, and that said board report in full at the next meeting of this Association the plans upon which it has been able to agree, together with the response of the profession to its circulars asking actual subscriptions to the proposed journal, and that the constitutional amendments proposed by Dr. Packard last year be continued upon the table until

the report of the board of trustees is received and acted upon.

"*Resolved*, That the Treasurer of this Association is hereby authorized to pay out of funds in the treasury the necessary expenses of the board of trustees in printing and distributing its circulars and in conducting its proper correspondence.

"*Resolved*, That the Committee of Publication proceed to publish the proceedings and transactions of the present meeting in a volume as heretofore, using all diligence to give it an early distribution to those entitled to receive it."

The committee to nominate trustees, appointed by the President, in accordance with these resolutions, consisted of Drs. L. A. Sayre, New York; J. M. Toner, District of Columbia; J. Foster Pratt, Michigan; R. J. Dunglison, Pennsylvania; Robert Battey, Georgia; W. F. Peck, Iowa; H. O. Marcy, Massachusetts.

Resolutions were adopted urging Congress to aid in the establishment of the Museum of Hygiene at Washington, and to restore the full amount hitherto appropriated to the Army Medical Museum and Library. Dr. Toner presented the report of the Committee on Necrology, and Drs. W. A. Byrd and A. L. Gihon read the annual addresses on Surgery and State Medicine, the former taking up for consideration the subject of Resection of the Abdomen. Dr. N. S. Davis presented the report on Meteorological Records, which is at present partial and preliminary and can only be completed after several years of study and observation.

On the fourth or last day of the session, the reports of the Librarian, Treasurer, and Committee of Publication were presented, after which the following resolution, offered by Dr. Gihon, U. S. Navy, was adopted:

"*Resolved*, That it is the sense of the American Medical Association that it will be conducive to justice and the dignity of the profession that medical expert testimony shall be given without having the appearance of being in behalf of either side, but to be stated simply as facts."

After much discussion, the following resolution was indefinitely postponed:

"*Resolved*, That the Association approve the organization of faculties in medicine having no other foundation than the examination for degrees, as a measure which will increase the value of the present methods of education in medical colleges in this country."

A resolution was tabled which had in view the establishment of a new medical college, under the auspices of the Association, based upon the assumption that "it is known that no school or college exists within the territory comprising the jurisdiction of the American Medical Association whose course of instruction fully meets the requirements of a practical medical education in all of its branches or specialties," and that tuition-fees should be

entirely divorced from instruction and graduation.

Dr. N. S. Davis introduced the following resolution, which was adopted:

"*Resolved*, That after the next annual meeting the permanent interests and influence of this Association would be best promoted by again holding every second meeting in Washington, as its home on common national ground, and not as invited guests, while each alternate meeting should be held in such section of the Union as would be most useful in promoting the society organizations in all parts of our country."

Adopted.

On motion of Dr. Marcy, a vote of thanks was tendered the Treasurer, Dr. Richard J. Dunglison, by the Association.

Dr. Sayre, as one of the Committee on the Appointment of Trustees for the Journal, said that the duty of the committee in selecting a board of trustees was a very important one; that in making the selection the committee had been hampered by the resolution passed on Thursday, to the effect that non-attending members were not eligible, as some of the oldest and ablest members of the Association were unable to be present at this session. The trustees appointed by the committee were as follows:

For three years—Drs. Davis, Chicago, E. M. Moore, New York, and Toner, Washington.

For two years—Drs. H. F. Campbell, Georgia, J. H. Packard, Pennsylvania, and Z. Connor, Michigan.

For one year—Drs. Hooper, Arkansas, Garcelon, Maine, and McMurtry, Kentucky.

Dr. Goodwillie, of New York, then read the address of the chairman of Section on Dentistry, and, after general congratulations and thanks, the Association adjourned, to meet in Cleveland, O., in June, 1883. To the Committee of Arrangements, and especially to its genial and efficient chairman, Dr. A. J. Stone, of St. Paul, the members of the Association are deeply indebted for their hospitable reception and their unceasing attention, as feelingly expressed on behalf of the Association by Dr. Davis, of Chicago.

LAVERAN'S MALARIA PARASITE.—In the May number of the *Archives de Médecine Navale*, Dr. Corre, of the French navy, expresses strong doubts as to the parasitic nature of the bodies which Laveran has considered to be the germ of malaria, and which he found in the blood of persons suffering from that disease. He shows that the forms observed by Laveran occur only in the acute forms of malarial fever, in which Hayem has pointed out that the red corpuscles are diminished in number and decomposition-products appear in the blood, and is disposed to agree with Kelsch in considering Laveran's parasite to be merely pigmented corpuscles due to retrograde metamorphosis.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the Hall of the Society on February 15, 1882.

APHASIA—TUMOR AT BASE OF BRAIN PRESSING UPON MEDULLA AND PONS.

Dr. Wood exhibited a portion of a brain which had been removed from a woman who had died at the Philadelphia Hospital four or five days previously. She had been hemiplegic on the right side, and aphasic. She had originally been able to speak English and German; but in her paralyzed condition she could only say "yes" and "no" in English, and "Gott im Himmel," and sometimes "Jesus," in German. During two years she had never used the German affirmative or negative, nor an English expression of emotion. At the post-mortem the vessels of the brain were found very generally atheromatous, with several spots of recent softening of the convolutions. Both lateral ventricles were distended with fluid, the left one enormously so. A cyst was found which had replaced the entire breadth of the lenticular body and adjacent portion of the internal capsule. This lesion did not destroy the cortical speech-centres, but their connection with the lower centres through the internal capsule. The retention of such expressions as "yes" or "no" when all other language was lost, in a case like this, suggests the idea that each word has its special centre and a special fibre for transmission, and that amidst the general wreck some filaments escaped.

Dr. Wood also showed the brain of a woman who had very obscure symptoms, of which the principal one was sudden rigidity, coming on sometimes when she was quiet, but more often while walking, the spasm being general and sometimes causing opisthotonus, the whole attack having a hysterical aspect. She also had severe headache, but not constantly, and marked weakness of the lower limbs, which latter symptoms had suggested a spinal trouble. She never had any definite paralytic symptoms. A post-mortem showed a sarcomatous tumor springing from the brain-membranes and pressing upon the medulla and pons, and more severely upon the inferior surface of the right cerebellar hemisphere, so as to cause atrophy of the nerve-mass.

Dr. Walker suggested as an explanation of the retention of certain words in the vocabulary of aphasic patients, that the utterance of these words may be substantially automatic, and, like other automatic actions, be capable of performance by centres below the seat of injury and of lower grade than those

which were required to produce them before their utterance became a matter of habit.

Dr. Mills agreed with Dr. Walker. Such words are generally retained as are most likely to be automatic, as "yes" and "no." He recalled a case in which, after total interruption of speech for several weeks, the first sign of return of the faculty was the utterance of an oath. Certain words become, by frequent repetition, substantially automatic in their utterance. Hughlings-Jackson has discussed this question at length.

Dr. Wood said that the theory suggested by Dr. Walker was the favorite one, but he was not satisfied with it. The answers of the aphasic were not automatic: they were directed by a specific intellectual effort, and coincided with the ideas suggested to the patient. In the case under discussion the fact had been tested by asking questions involving a certain number in the answer, and then indicating different numbers with the fingers. The patient would answer "no" until the correct number was shown, when she would say "yes" and smile. Such action was not, in his opinion, automatic. His own idea was that, in accordance with well-known principles, the most used centres were the strongest, and hence resisted destruction longer.

DISCUSSION ON EPISCLERITIS.

Dr. Little exhibited and described a case of episcleritis. This disease, he said, was quite rare, occurring in ophthalmic practice in about one-sixth of one per cent. of the cases. It was an inflammation of the vascular tissue between the sclerotic and conjunctiva. In the present case, the patient, a young woman, had had one attack before he had seen her, another at the time of consulting him, and then the present one. It presented a pustular condition of the sclerotic, with appearance like phlyctenulæ, the left eye being involved, and it had appeared at different points each time, two points of inflammation now existing. The disease arises from unknown causes, and is likely to recur. It is not attended with conjunctivitis, and is not very painful. The danger arises from a possibility of extending across the corneal line and thus injuring sight. The present case showed a superficial keratitis corresponding to the line of episcleral trouble. In the treatment he had at first used atropia, hot water, and mercurial ointments, but had secured much more success by using the artificial leech to the left temple, drawing six or eight ounces of blood. The case is now rapidly improving; the cornea has a somewhat ground-glass look, sight being a little affected by the keratitis. The disease is most frequent in elderly persons and in men. Puncturing and the use of irritants are of no avail in the treatment. In reference to the diagnosis between episcleritis and scleritis, Dr. Little said that the principal points were that the latter was attended by greater

pain and marked tenderness, and was generally of gouty, rheumatic, or other specific order. Episcleritis is a disease of the tissue between the conjunctiva and sclerótica. The general health must be considered. The following table gives some statistics of the disease, showing 221 cases in 135,924 patients,—one-sixth of one per cent.

Name of Institution.	Cases of Episcleritis.	Total No. of Cases.
N. Y. Eye and Ear Infirmary, N. Y. City, '69, '73, '74, '80.....	4 years, 29	29,534
Manhattan Eye and Ear Hospital, N. Y. City, '69-'79.....	10 " 37	18,598
N. Y. Ophthalmic and Aural Institute, N. Y. City, '74.....	1 year, 14	5,570
Brooklyn Eye and Ear Hospital, Brooklyn, N. Y., '69-'81.....	12 years, 54	23,077
Massachusetts Charitable Eye and Ear Infirmary, Boston, Mass., '78-'81.....	4 " 29	27,999
St. Michael's Hospital, Eye Department, Newark, N. J., '78.....	1 year, 2	1,443
Newark Charitable Eye and Ear Infirmary, Newark, N. J., '80.....	1 " 4	4,219
Illinois Charitable Eye and Ear Infirmary, Chicago, Ill., '79, '80.....	2 years, 2	3,259
The Wills Eye Hospital, Philadelphia, Pa., '78.....	1 year, 3	4,686
Eye and Ear Department Philadelphia Dispensary, Philadelphia, Pa., '70-'80.....	10 years, 45	15,383
Jefferson Medical College Hospital, Eye Department, Philadelphia, Pa., '78-'81.....	4 " 2	2,156
	221	135,924
11 institutions.	$\frac{1}{6}$ of 1%	

CANCER OF LIVER AND RUPTURE OF HEART.

Dr. Bruen presented two specimens, one of encephaloid cancer of liver, with embolic abscess in the right lobe. Pus from one of these abscesses had perforated the diaphragm and pleural sac, and had been evacuated from the pleural cavity by paracentesis.

The following points were elaborated from the clinical history and from examination of the specimen.

1. The pus from the abscess was laudable, creamy pus,—not chocolate-colored, as is commonly the case in hepatic abscess, in the speaker's experience. The pus, however, responded to the tests for biliary coloring-matters.

2. *The Nature of the Abscess.*—The collections of pus were circular, and resembled embolic abscesses. The speaker believed this to be the etiology of these collections. The combination of cancer and abscess was unusual, but was probably due to the perforation of the walls of some of the venous blood-vessels.

3. *The Diagnosis.*—In making the diagnosis, more weight should have been given to the question of etiology, so very constantly in this latitude is this cause the true pathology. Lesions are commonly found in the portal vein, the intestine, or even the general system,

giving rise to embolism. In the latter case an experiment is recorded in Frerichs's work, in which quicksilver injected into the jugular vein had reached the liver after traversing the pulmonary circulation.

4. *Age.*—Dr. Bruen had seen five cases of cancer of the liver during the winter. Three of these were in persons under thirty years of age,—an unusual circumstance, according to statistics. It is true, however, that all of them had been cases of encephaloid cancer. Frerichs says cancers in early life are secondary; but these cases appear to be primary.

Dr. Bruen also showed a specimen of rupture of the heart. Two small fissures can be seen externally in the wall of the left ventricle, near the auriculo-ventricular boundary. The internal surface was seen to be hollowed out, and the muscle broken up and bruised. The blood probably had gradually filtered through the muscular fibres until the wall had become very thin, when the rupture occurred. The coronary arteries were markedly atheromatous. The aorta was markedly dilated, with a few atheromatous plates. The kidneys were somewhat contracted. The pericardium was found filled with coagula, and some of the fibres of the clot protruded through the rupture. There had been no endocarditis of any form. The immediate cause of death had been straining at stool. The patient died two hours after the rupture. The speaker had met one other case in which life had been prolonged for forty-eight hours. In this case, then, the rupture was due to the fatty state of the heart; and it is possible that cases of sudden death in old paralytics, or others in whom cardiac nutrition is inactive, may proceed from rupture of the heart oftener than is usually suspected.

In answer to a question, Dr. Bruen said that the pericardium was full of clots; in the specimen one of these clots was shown in connection with the rupture; the pericardium was fairly distended. In post-mortems of these cases the clots should be removed carefully, and those attached to the heart should be removed with it. Where the rupture was very minute, it had been proposed to fill the ventricle with water as a means of detecting the opening.

Dr. Neff had seen several cases of rupture of the heart. In some where the rupture was small there was a sudden shock or faint, from which the patient rallied, but died from eight to ten hours afterwards. In the post-mortem he had found the pericardium more or less distended, but not universally so.

Dr. Eskridge said that rupture of the heart might occur and not be detected at the autopsy. He instanced a case he had seen in which a lady in the act of kneeling in church suddenly died. At the post-mortem the pericardium was distended with blood, but he found neither aneurism nor rupture. In this woman the left auricle and ventricle were a

mass of fatty tissue. Several cases were recorded of patients living for some time after the rupture. In one such case he had seen, the blood had dissected out a sinus with a large internal but very small external opening.

Dr. John B. Roberts alluded to a case of rupture, which had been incidentally mentioned by Dr. Bruen, that had been examined by Dr. J. C. Wilson and himself. The rupture was in a position similar to that in the specimen now before the Society, but was somewhat larger, and a clot as large as a man's fist was in the pericardium. In reference to the possibility of blood getting through the heart-tissue without leaving evidence of rupture, Dr. Roberts hesitated to admit the fact. The rupture might be very small and easily overlooked; but he would expect some such evidence as a shred of clot to remain. He had seen a case where a small orifice in the thoracic aorta had filled the pericardium with blood and caused death, with symptoms like those of obstruction of the larynx.

Dr. Seiler referred to a case of rupture of the aorta into the pericardium in which life was prolonged for forty-eight hours. The pericardium was distended to its utmost. Also a case of rupture of the heart at apex of left ventricle, the pericardium being filled with blood.

Dr. Schapring referred to a case of ulcer of the stomach in which death took place with symptoms of internal effusion of blood. The intestines were full of blood, but no point could be found from which the blood had come. The stomach and duodenum showed cicatrices of old ulcers.

Dr. Eskridge said that cases were on record in which the pericardium was undoubtedly found full of blood, but no rupture could be found. Dr. Keen had exhibited the heart of such a case before the students of the Jefferson Medical College.

Dr. Roberts said he did not doubt that the pericardium might be found filled with blood in these cases; but the point to be proved was, did it come from the heart, and was the examination carefully made?

DERMOID OVARIAN CYST.

Dr. Parish presented a specimen of dermoid cyst of the ovary, which had been obtained at the dissecting-room of the Women's Medical College, and to which no history could be given. The subject was 45 or 50 years of age. The tumor was apparently connected with the right ovary, as this organ could not be found. It was pear-shaped and attached to the right broad ligament. The left ovary was nearly normal. The interior of the tumor showed a grumous mass, probably sebaceous matter and epithelial scales, containing some hair. As yet no teeth or bone have been found; but a thorough examination has not been made. The diagnosis of such tumors is based upon their location, slow growth, and

apparent solidity, and by the exclusion of other growths.

Dr. Parish also showed two concretions in the thyroid gland of a male subject. He was indebted to Dr. Emilie Du Bois, Demonstrator of Anatomy of the Women's Medical College, for these specimens.

Dr. Seiler said that concretions in the thyroid gland were rare in this country, but common in localities where goitre occurred, as in Switzerland, Savoy, Tyrol, etc.

Dr. Schapring said that in the Vienna dissecting-rooms he had generally found concretions in the thyroid glands of subjects past middle age, whether they were goitrous or not.

OPERATION FOR INTRA-NASAL HYPERTROPHY.

Dr. Carl Seiler brought two cases of anterior intra-nasal hypertrophy, upon which he operated before the Society by means of the galvano-cautery. Before proceeding with the operations, he stated that there were two kinds of such hypertrophies,—permanent and temporary. Both produced partial or complete stenosis of the nostril, and should therefore be removed by operation. He also stated that the operation, if properly performed, was painless, or almost so; but great care should be exercised in maintaining the platinum loop of the cautery knife at a cherry-red; for if it is at a white heat a copious hemorrhage will follow the incision, and if not hot enough it gives rise to pain. The mucous membrane only should be cauterized, and the vestibule of the nostril carefully protected by a rubber shield.

Dr. Seiler further stated that he had operated upon a very large number of cases, both in the dispensary and in private practice, without having met with any untoward results; but he said that he could readily understand how inflammation of serious character could follow the operation if too much was done at once. The two patients were then operated upon very successfully. They did not seem to feel the least pain, and were afterwards examined by the members present.

FICTITIOUS URINARY DEPOSIT.

Dr. O'Hara related a case with all the symptoms of a passing renal calculus. He desired whatever was passed to be sent him, and this which was presented was said to have been passed. It had the appearance of a membrane about half an inch square, with crystals (six-sided) on it. It was supposed to be cystine,—a rare form of urinary calculus,—but subsequent examination by Drs. Turnbull and Leffmann, with careful microscopical and chemical examination, led to the conclusion that it had been some months in the bottle in which the urine was placed. That there had been a calculus passed he felt sure, but it had probably been lost.

Dr. Turnbull said the substance appeared to be something which had been in the bottle before the urine had been put in, and on

chemical examination by Dr. Leffmann it proved to be a mass of collodion enclosing crystals of iodoform and some hairs from the brush which had been used in the solution. It was evidently foreign to the urine; and the case illustrated the importance of care in taking samples of urine and of not trusting too implicitly to patients.

Dr. Seiler alluded to a case in which muscular fibres and the leg of a fly had been found in a urinary sediment and were supposed to have been accidentally introduced; but on a second sample being taken with proper precautions, similar articles were found, and the case turned out to be one of vesico-rectal fistula.

Dr. Schapringher alluded to a case in which a patient pretended to have diabetes, and, suspicion having been excited, the patient was watched and was detected diluting the urine.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, APRIL 12, 1882.

VICE-PRESIDENT J. SOLIS COHEN in the Chair.

Tumor of alveolar process of lower jaw. Read by Dr. J. B. ROBERTS.

A YOUNG woman, aged about 20 years, had had for some months a flattened and ulcerated growth on the right side of lower alveolus, behind lower teeth. The tumor overlapped the borders of the gum, and had a fungoid appearance. There was no special pain, no glandular involvement, and general health was very good. I cut away the upper portion by an elliptical incision with the scalpel, and, finding the last molar displaced inward and evidently in close relation with the tumor, seized it with the forceps in order to extract it. To my surprise, the tooth was easily lifted from the bone, and brought with it the remainder of the growth,—about three-quarters of an inch or an inch in diameter,—and left a cavity in the jaw large enough to insert my finger. The surfaces of the cavity and the rough edges of bone were thoroughly cut away by the burr of the surgical engine. On the tenth day the patient was discharged from my care to return to her home in the centre of the State, although there was still a little stiffness of the jaws from swelling and an incompletely-healed wound. I have not heard from her since that time, which is about five years ago.

Report of the Committee on Morbid Growths.

—“A microscopical section of the tumor shows, upon examination, the histological structure of fibrous tissue. This tissue is seen in different parts of the section in its various stages of development,—young and embryonal, as indicated by embryonic cells; myxomatous, by stellate and fusiform cells, with a soft, ge-

latinous, intercellular substance; and mature, by a distinct fibrillar substance separating spindle-shaped cells. The blood-vessels possess evident walls. The growth is a fibroma.

“May 11, 1882.”

Apparent atrophy of tumor previously reported, explained by further history of case.

Read by Dr. J. B. ROBERTS.

At the meeting of January 12, 1882, I reported a case of apparent atrophy of a tumor of the left shoulder. The published account of my remarks, found in the *Medical Times*, is erroneous in that the wound spoken of was received *seventeen or eighteen years* ago, and involved the *opposite* axilla. Moreover, the tumor did not appear until four or five months previous to time of the meeting, which was seventeen or eighteen years after the injury. The general neurotic tendencies of the patient were merely mentioned to show the character of the individual, and not because the small growth was supposed to be connected directly with the wound, as would be inferred from the published statement.

Since the meeting, the explanation of the case has become easy, and, as I stated I would detail the subsequent course of the growth, I now do so.

On January 25, 1882, he came to my office, saying the tumor was very painful and resembled a boil. Examination showed a small fluctuating swelling, purplish red in color, without any areola of inflammatory redness, and showing no tendency to point at the seat of the former tumor. It resembled and evidently was a subacute abscess of a lymphatic gland. Incision and the insertion of a small tent were followed by speedy cure.

The unusual location on the top and posterior aspect of the shoulder, the history of long duration without inflammatory symptoms, the absence of other enlarged glands, and the exquisite neuralgic pain on pressure, made me look upon it as a fibroma. It was evidently, however, a chronic inflammation of a lymphatic gland and its circumglandular tissue. After remaining quiet several months, the tumor gradually became reduced in volume by absorption of the inflammatory deposits, and then abscess occurred in the gland itself.

This is the explanation of the phenomena.

Dr. SEILER said that he would like to know the pathological nature of the so-called painful subcutaneous tubercles referred to by Dr. Roberts. He had examined a number which were supposed to be neuromata, but had always found them to be cavernous fibromata.

Dr. FORMAD replied that in the celebrated case of Dr. Duhring's, where Dr. Maury had excised the brachial plexus, he had examined a number of the tumors, some removed before, some after death. One, which had been at first reported by Dr. Duhring as a fibroma, he had subsequently re-examined, when it had

proved, like all the others, to be a true amyelinic neuroma starting from the peripheral-nerve filaments. His opinion had been confirmed by eminent European microscopists. He knew of but one other similar case. One of the above-mentioned specimens from Dr. Duhring's patient was the same which Dr. Seiler had considered to be a cavernous fibroma.

Epithelioma of leg. Exhibited by Dr. H. F. FORMAD, for Dr. W. G. PORTER.

The following history was kindly furnished by Dr. Ch. W. Kollock:

Rose D., born in Ireland, age 43 years. She twisted her ankle on a curbstone, but felt very little pain at the time. At the expiration of two or three weeks the leg began to swell, and considerable pain was experienced. It was several years later before there was any sore, and after this occurred a piece of bone came out: the sore healed, but was not "solid," as she expresses it. Later on, the sore again opened, and had the appearance of proud flesh. She entered the Episcopal Hospital, and was operated upon by Dr. Ashhurst, who removed a portion of the tibia. The leg never healed after the operation,—that is, entirely. She entered the Philadelphia Hospital in February, 1881, and from that time the leg grew steadily worse until the 4th of January, 1882, when it was amputated by Dr. W. G. Porter just below the tubercle of the tibia.

It is now about fourteen years since the ankle was first injured. Before the accident she was perfectly healthy, and her parents were healthy according to her statements. The patient is now doing well, but the stump is not healing.

NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, JUNE 1, 1882.

DR. FORDYCE BARKER, President, in the Chair.

DR. A. B. JUDSON read a paper on

SOME PRACTICAL INFERENCES FROM THE PATHOLOGY OF HIP-DISEASES.

The effect, he said, of the application of traction to a joint in a state of acute inflammation is eminently gratifying. All have experienced pleasure in seeing a patient relieved from his suffering by the simple expedient of the weight and pulley. This method of treatment in cases of hip-disease had been commonly practised. To this effect, he quoted the statistics of the New York Hospital for the Ruptured and Crippled, at which institution, from 1863 to 1873, over one-half the patients suffering from this affection were so treated; and he believed the method was quite commonly adopted by specialists in this line throughout the city, as well as elsewhere. Dr. Judson then took up the subject of the

rationale of the treatment, having already recognized the relief from pain which it produces. It was generally supposed that by pressure upon the acetabulum, due to contraction of the muscles concerned in the hip-joint, pain was excited, and that by counteracting such muscular contraction by the weight and pulley, or other apparatus, such pressure was relieved along with the sufferings of the patient which it gave rise to. Hunter and several other of the older authorities were quoted as having appreciated in some degree the influence exerted by muscular contraction; but it was not until of late years that full recognition was given to the importance of this pathological factor. The therapeutic precept which implied the overcoming of muscular action, it seemed to him, deserved closer investigation than it had yet received. Various authors were then quoted with reference to the "vicious circle," the influence which inflammation within the joint had to do in causing reflex contraction in the muscles, and the aggravating effect of this latter upon the inflammatory process by pressure which it produced.

The morbid anatomy of the affection was reviewed, and illustrated by drawings copied from Drs. Sayre, Gidney, Barwell, and others. Not a few cases were on record in which the ulcerative process affected the bone alone, the articulating surfaces escaping entirely. This fact threw doubt upon the opinion expressed by some that muscular contraction was the originating factor of the affection, or at least one of the leading factors. Specimens in which the ulcerative process affected the articulating surfaces alone, the bone escaping, were not found by which to support the view that the disease in its incipency existed in the articulating surfaces or soft parts of the joint and was caused by muscular contraction. The central portion of the bone was usually more deeply implicated than the bony or hard substance, which would go to show that the disease had its origin in the cancellous portion, and from there radiated outward.

The ulcerative process in some cases was so great that, if the muscular contraction were as powerful as we should infer it to be from the amount of weight recommended by some to overcome it, the diseased bone would be crushed and become greatly shortened.

In reviewing the subject, it would be seen that he had not found in the morbid anatomy facts to support the view that in its incipency the disease could have been due to the muscular contraction causing pressure; but it could not be said that later this did not exert an influence in shortening the limb; and, inasmuch as when it was overcome the patient experienced relief from pain, there was good reason for adopting counterextension in the treatment. But there were also ample rational grounds for its use: it necessarily im-

plied fixation of the joint, and immobility was indicated both by the general history and by the morbid specimens produced.

DISCUSSION.

Dr. V. P. GIBNEY would thank the author for his valuable paper on this important and long-mooted question with relation to hip-disease and its treatment by counterextension. The deductions which had been drawn with regard to the usefulness of traction, and especially in causing immobilization, were very interesting. He fully agreed with the author in his statement that there were various kinds of hip-disease, although he had not in his paper discussed this side of the subject. It was common, he believed, at the present day, to classify cases of hip-disease, so called, into two large divisions, the first including those cases in which there was actual destructive process of the bone, and the second including cases not falling within this category. Almost every physician could bear testimony to the fact that some patients with so-called hip-disease, but in which really only soft parts were involved, giving rise to symptoms simulating disease of the bone, got well under treatment, or even without any treatment, within a short time. Perinephritis in children, or idiopathic perityphilitis, affections which involved the soft parts near the hip, might give rise to symptoms which could be readily mistaken for those of hip-disease. The term hip-disease was less suitable to represent this class of cases than that of articular osteitis or epiphysitis; but perhaps we had not yet arrived at a point where a change in the nomenclature would be desirable. Young girls were sometimes crippled even for years with what appeared to be hip-disease; and on applying a counterirritant over the hip they recovered within two or three weeks. The trouble had been a neurosis or an hysterical joint.

Dr. T. E. SATTERTHWAITHE said that while studying the pathology of caries of the ankle in connection with Dr. Gidney, it was found that the disease usually seemed to have its origin in the cancellous portion of the bone. A number of joints were not infrequently affected in the same individual, which would seem to point to a constitutional rather than a traumatic origin.

After a few remarks by Dr. JUDSON, the Academy adjourned.

PYRETHRUM AS A REMEDY FOR PHTHEIRIASIS PUBIS.—A correspondent of the *Druggist's Circular* has used, for the destruction of pediculi pubis, the ordinary Persian insect-powder. The efficiency of this treatment once fully established, the demand for mercurial ointment may be expected to decline. The powder may be perfumed, if desired, with any essential oil, or possibly—if the specialists prefer—with iodoform.

REVIEWS AND BOOK NOTICES.

LECTURES ON THE PATHOLOGY AND TREATMENT OF LATERAL AND OTHER FORMS OF CURVATURE OF THE SPINE. By WILLIAM ADAMS, F.R.C.S., etc., etc. Delivered at the Grosvenor Place School of Medicine in the Session 1860-61. Illustrated by Five Lithograph Plates and Seventy-Two Wood-Engravings. Second Edition. 8vo, pp. 302. London, J. & A. Churchill, 1882.

This is a very excellent book, containing sound anatomical and surgical views, clearly expressed. But it is rather a reprint than a new edition. We have carefully compared it with the former issue, and can find very few changes in the text, and those of small importance. The additions consist of brief notes referring to the views of Barwell, Sayre, and Judson, and an appendix mainly devoted to the subject of the treatment of lateral curvatures. There is also a detailed and illustrated account of a specimen in the Middlesex Hospital Museum.

Mr. Adams confines himself to the discussion of distortions of the spine, not treating at all of caries, or Pott's disease, in which such excellent results have been of late years attained by means of the plan so ably advocated by Sayre, and so generally used by surgeons both in this country and abroad. It cannot be doubted that a want of discrimination between the two classes of cases has sometimes led to disappointment in the results of this mode of treatment.

An extended analysis of a book which is not new will hardly be looked for; but we may say that Mr. Adams enters quite fully into the anatomy and physiology of the spinal column, and describes at length the causes of its curvatures. In connection with each form of distortion he presents the methods of treatment, both by properly-regulated gymnastic exercises and by apparatus.

The typography of the present edition is more agreeable than that of the former one; and we commend the work to the careful study of the profession in this country.

A STUDY OF TUMORS OF THE BLADDER, WITH ORIGINAL CONTRIBUTIONS AND DRAWINGS. By ALEX. W. STEIN, M.D., etc. 8vo, pp. 94. New York, Wm. Wood & Co., 1881.

Although this book certainly contains much information on a subject which is probably unfamiliar to many, even among experienced and well-read surgeons, it has not the originality which would seem to be claimed for it in its title. With the exception, indeed, of the histories of two cases of villous cancer, and of a description of a new dilator for the female urethra, it is a compilation rather than a study. We find almost the whole of it, but in a more concise form, in chapter vi. of "Gross on the Urinary Organs;" and on page

1 of our author there is something very like an unacknowledged quotation from p. 140 of the older work.

Dr. Stein has no doubt done a service in calling attention to a class of cases which by their rarity, as well as by the difficulties surrounding them, are apt, when met with, to perplex and baffle the practitioner; and he has collated the opinions of later writers, apparently with diligence and success. Yet neither in the body of his book nor in the conclusions presented on its last two pages do we find that there is any important addition to the facts and views set forth by the writer above referred to. We note that in the bibliographical list there occurs no reference to seven fully-reported cases in the Transactions of the Pathological Society of Philadelphia, vols. i., ii., iii., and iv. A really complete bibliography of any subject is extremely seldom met with, and involves a very great deal of patient labor.

Perhaps our author intentionally omitted all mention of the endoscope as a means of diagnosis because he had no belief in its usefulness; yet we think the attempts recently made by Nietze and Leiter to improve the instrument have increased the chances of its becoming available, especially in the detection of tumors within the bladder at an early stage of their growth,—a point of great importance, only incidentally alluded to in the work before us.

On p. 36 we observe an inaccuracy which is more frequently fallen into than it should be by writers of our day. Dr. Stein says that tumors sometimes undergo calcareous transformation, and immediately afterwards quotes a case of "bony cyst," another of a tumor "entirely ossified." Unless the microscope revealed true bony tissue, such expressions should not be applied to the formations in question, and can only mislead the student.

A good many typographical errors annoy the reader of this book: the word "dendritic" is twice printed "dentrtric," and even familiar proper names are wrongly spelled. The cuts and the mechanical execution of the book are fairly good.

J. H. P.

MANUAL OF DISEASES OF THE SKIN: WITH AN ANALYSIS OF EIGHT THOUSAND CONSECUTIVE CASES AND A FORMULARY. By L. DUNCAN BULKLEY, A.M., M.D., etc. New York, G. P. Putnam's Sons, 1882. 12mo, pp. 312.

Dr. Bulkley's little work—a gift from the specialist to the general profession, and which none but a thorough specialist could have written—fills a want in American dermatological literature which has been more and more felt of late years, since the dermatologists of this country have so far departed from the ways of their antiquated predecessors in England. The little English hand-books which have heretofore alone been available

for the student have been devised on an absurd plan, and have apparently been stereotyped years ago. They are certainly calculated for the most part to confuse rather than assist the beginner.

Dr. Bulkley's book, arranged as it is essentially according to the classification of the American Dermatological Association, is in accord with the teachings of the dermatologists of this country, and will doubtless find a place as a class-book in all medical colleges where dermatology is taught.

The plan of the book demands the exclusion of the rarer skin diseases from consideration, and also the avoidance of all reference to the pathology and pathological anatomy of the several affections. Chapters on the general subjects of anatomy, physiology, etiology, and diagnosis are followed by classification, and then comes a description of the various individual affections, their characteristic appearance, lesions, etc., and the affections with which in each case they may be confounded. The subject of treatment receives as much attention as it is possible to give in a book of the kind, and the student is referred to the abundant formulary at the end of the volume for the prescriptions appropriate in each disease.

We can cordially recommend this little book of Dr. Bulkley's to the student and practitioner, not as in any way superseding such complete works as that of Dühring, but as introducing and leading up to the more complete treatise. The transition from one to the other can easily be effected, because the dermatologists of America are working on a uniform plan, and the confusion which formerly reigned in this section of medicine is, thanks to their labors, now a thing of the past.

A. V. H.

A TREATISE ON DISEASES OF THE EYE. By HENRY D. NOYES, A.M., M.D., Professor of Ophthalmology and Otology in Bellevue Hospital Medical College, Surgeon to the New York Eye and Ear Infirmary, President of the American Ophthalmological Society, etc. 8vo, pp. 360. New York, William Wood & Co., 1881.

This volume, which is No. 12 of Wood's "Library of Standard Medical Authors," is a good book, and will add at least its full share to the value and success of the series. The author has spared no pains to bring his treatise up to the times in all essential points, and "to condense into the limits assigned to him the substance of modern ophthalmic knowledge." More attention is given than in most text-books to the anatomy and physiology of the eye, and the directions for the use of the ophthalmoscope and for the detection and correction of the defects of refraction and accommodation are clear and sufficiently full. There is not a large number of typographical or other errors, but one in

figures on page 75 is likely to prove an exasperating stumbling-block to the student who is groping for the first time among the difficulties of mixed astigmatism. The cylindrical glass should be 9, and the spherical 18; instead of the reverse, as it stands.

Of the general "get-up" of the book, perhaps the less said the better, except that it is not reasonable to expect much elegance for one dollar. Most of the colored plates, however, and some of the wood-cuts, would be dear at any price, and had better have been omitted. Fig. 19, for example, on page 32, we believe will be a hopeless puzzle to most readers, particularly as no reference is made to it in the text.

Dr. Noyes has done his share of the work well: the book is a useful one for both the specialist and the general practitioner, and would no doubt meet with high appreciation from both if it could appear on its own account and in a more becoming dress.

GLEANINGS FROM EXCHANGES.

THE TREATMENT OF HEMORRHOIDS BY CRUSHING.—Mr. Fitzroy Benham, in a contribution to the *Lancet* (April 15), speaks in enthusiastic terms of the new treatment for hemorrhoids by crushing, which was introduced in 1880 by Mr. Pollock. From an experience extending to one hundred and thirty-one cases treated in this manner by a clamp especially devised by the writer for the purpose, he says that the results were uniformly successful, painless and bloodless: he says, further, that "in not one instance, with the exception of the first two, was it necessary to apply even a fine ligature, so effectual was the crushing process." The clamp is shaped somewhat like a large pair of pincers, and its crushing power is very great. The following details are given of the operation: "The bowels should be well opened by the aid of some purgative,—perhaps the simplest is either Glauber's salts or the compound senna mixture,—and, in addition to this, it is usually advisable to give a common enema just prior to the time fixed for the operation, and to steam the parts in the usual manner. The patient, having been placed under the influence of ether, should be turned on one side, usually the left, with the buttocks well drawn to the edge of the bed, and with the knee remote from the bed, well drawn up towards the abdomen. The pile to be removed is to be drawn down by means of a pronged fork or vulsellum. The clamp is then to be applied to the base of the pile, and at once tightly and firmly closed by the action of the screw at the end of the handles. The portion of the pile which protrudes inside the lips of the clamp is then to be removed by a pair of scissors curved on the flat, or scalpel. After the clamp has been allowed to remain *in situ*

for about a minute, the thumb-screw may be gradually slackened; but, at the same time, particular care must be taken to press the jaws of the instrument well up against the buttocks, so that the surrounding tissues may not be unduly stretched; otherwise they will return into the bowel with an 'elastic recoil,' and will thus have a tendency to tear asunder the 'fringed remnant' left by the clamp. I cannot too strongly impress this on the attention of the operator; for the success of the operation being rendered bloodless depends in no small measure on his taking this precaution. The process is, of course, to be repeated according to the number of masses to be got rid of. If several piles are to be removed, it is advisable to operate first on the lower, or those situated more externally, and then to proceed upward; for by adopting this method the 'fringed remnants' left by the clamp from the former masses will not be subjected to so much tension when the latter are operated on. If a pile be of an unusually large size, so much so that it is apprehended that a portion may overhang the sides of the jaws, I clamp the mass in two portions; but before releasing the grip of the jaws from the first portion I divide only a part of it which is within the grip of the jaws, and then take particular care to have a firm hold with the vulsellum of the portion not yet operated on.* Occasionally it may be advisable to separate the skin before clamping the pile; but, as a rule, I have not found this at all necessary, or even beneficial, for this reason alone,—the area of the wound to be healed is materially increased. After the operation I simply sponge the parts, and usually administer an anodyne, not so much for the purpose of alleviating pain, but chiefly to quiet the patient, as he naturally becomes restless for a few hours afterwards, until the effects of the ether pass off. It is as well that the bowels should not act for about five or six days after the operation, but should they be relaxed I administer opium, either the tincture or a suppository, which I also do in those exceptional cases in which patients are peculiarly sensitive to even the slightest pain. On the morning of the sixth day I usually give about three drachms of Glauber's salts in warm water, and if this does not readily act, which may cause the patient some discomfort, I then administer an enema. By this means the motions become loose, thus reducing the pain arising from the hardened fæces passing along the tender parts, to a minimum. After the bowels have acted, the parts are to be carefully sponged and smeared over with carbolized vaseline (five grains to the ounce), by gently introducing the finger into the bowel. The diet should at first be light and nourishing, but not stimulating, unless

* I have recently introduced a modified clamp, so that on each side of the jaws there is a projecting lip or beard: hence it is impossible for the sides of a large mass of tissues to overhang the jaws.

otherwise indicated. It is rarely necessary for the patient to remain in bed after six or seven days, if the bowels have acted, but it is not advisable to allow him to resume any active work for at least a fortnight after the operation, and, indeed, even for a few days longer, if he be a laboring-man."

THE PHYSIOLOGICAL EFFECTS OF BOLDO.—During the last few years several articles have appeared in relation to *boldo*, an evergreen shrub from Chili, the leaves of which contain a volatile oil. A tincture and extract of the drug have been used in general debility and weak heart; the oil has been recommended for its influence on the mucous membranes, and especially in inflammation of the genito-urinary tract. Verne, who directed attention to it in 1874, has recently made some physiological experiments to determine its effects in man upon the circulation, temperature, quantity of urine, and excretion of urea. (*Bull. Gén. de Thérapéut.*, April 15.) He concludes that the "aromatic substances and *boldine* are eliminated by the urine. Boldo has no effect on the circulation, temperature, or upon the quantity of urine, but it sensibly augments the elimination of urea." In this respect it resembles coca, as it does also in a slight exhilarating effect.

NOTES AND QUERIES.

PHILADELPHIA, JUNE 1, 1882.

EDITOR OF THE MEDICAL TIMES:

DEAR SIR,—The case of J. B., published in the *Times* of May 6, 1882, has elicited criticism, and is refused admission to the rank to which it is assigned. Dr. Van Harlingen, the critic, objects to my diagnosis of prurigo, *fiat*, because in this country prurigo is a very rare disease. Two cases of prurigo have been placed upon record. It is therefore possible that other cases of prurigo may be found upon this continent. Had prurigo never been seen here before, and a case answering to the requirements of that disease and to no other fallen into my hands, I should have reported it as prurigo, without bestowing as much importance upon the question of frequency as the doctor would have us to do. Secondly, I admit the difficulty in determining between true prurigo and chronic papular eczema. As the result of observation and study, extended over a period of many months, upon the case of J. B., I can affirm the statement in the history that the eruption was always the same. For nearly two years, during which I watched the case, the lesions, when they appeared, were papules, and, as the result of scratching, covered with blood-crusts, the surrounding skin being more or less thickened. Most strongly against chronic papular eczema is the constant character of the lesion for eight and a half years. Eczema (in a child) of so long standing would have shown its protean nature. Eruptions of a moist, scaly, vesicular, or other form would have occurred, supplanting or in addition to the acuminated papule of eczema. In J. B.'s case the eruption was constant, invariable, rebellious for seven years to treatment, and never anything else than a papule, with more or less thickening, and accompanied by intense itching. Thirdly, the doctor distrusts the diagnosis because the medicaments acted so quickly (!). The doctor forgets that for seven years this lad had tried many prescriptions, some possibly written by Dr. Van Harlingen himself. Each and all of these failed to relieve the disease.

I lay no claim to having *cured* the case, nor do I regard the selection of the medicines as creditable. I regard the use of sulphur ointment as simply accidental.

By carefully re-reading the report of the case, with the aid of this communication, the doctor will perhaps discover in his criticism in the *Times* of May 20, 1882, evidences of hasty judgment.

Respectfully,

H. C. BOENNING,
328 Franklin St.

NOTICE TO GRADUATES OF BELLEVUE HOSPITAL MEDICAL COLLEGE.

A SECOND decennial revision of the Catalogue of Alumni of this college is being prepared for publication, and we are requested to ask that all graduates send their present address at once, on a postal-card, to the Historian of the Alumni Association, Bellevue Hospital Medical College, New York, N.Y.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MAY 28 TO JUNE 10, 1882.

MAGRUDER, D. L., MAJOR AND SURGEON, MEDICAL DIRECTOR, DEPARTMENT OF THE MISSOURI.—Granted leave of absence for one month. S. O. 110, Department of the Missouri, June 1, 1882.

McKEE, J. C., MAJOR AND SURGEON.—The extension of leave of absence on surgeon's certificate of disability, granted him in S. O. 262, A. G. O., November 10, 1881, still further extended six months on surgeon's certificate of disability. S. O. 122, A. G. O., May 26, 1882.

WATERS, WM. E., MAJOR AND SURGEON.—Granted leave of absence for four months. S. O. 121, A. G. O., May 25, 1882.

BROWN, J. M., MAJOR AND SURGEON.—Having reported at these headquarters, is assigned to duty at Newport Barracks, Ky. S. O. 57, Department of the South, May 29, 1882.

BROOKE, JOHN, CAPTAIN AND ASSISTANT-SURGEON.—To be relieved from duty in Department of the South, when Major Brown shall have reported for duty therein, and to proceed, on July 1, 1882, to Presidio of San Francisco, Cal., and report in person to the Commanding General, Military Division of the Pacific, for assignment to duty in Department of California. S. O. 121, c. s., A. G. O.

CALDWELL, D. G., CAPTAIN AND ASSISTANT-SURGEON.—Upon completion of packing and turning over the medical supplies at Fort Sanders, to report to the Commanding Officer, Fort Fred. Steele, Wyoming, for duty as post surgeon. S. O. 56, Department of the Platte, May 29, 1882.

O'REILLY, R. M., CAPTAIN AND ASSISTANT-SURGEON.—Now at Washington, D.C., to report in person to the Attending Surgeon at this station, for assignment to temporary duty in his office. S. O. 124, A. G. O., May 29, 1882.

BROWN, PAUL R., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months on surgeon's certificate of disability. S. O. 121, c. s., A. G. O.

SEMIG, B. G., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one year on surgeon's certificate of disability. S. O. 121, c. s., A. G. O.

TAYLOR, M. E., CAPTAIN AND ASSISTANT-SURGEON.—Now awaiting orders at St. Louis, Mo., to report in person to the Superintendent Mounted Recruiting Service, for temporary duty at the Cavalry Depot, Jefferson Barracks, Mo. S. O. 126, A. G. O., June 1, 1882.

TESSON, L. S., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at the Cavalry Depot, Jefferson Barracks, Mo., and to proceed on July 1, 1882, to San Antonio, Texas, and report in person to the Commanding General, Department of Texas, for assignment to duty. S. O. 126, c. s., A. G. O.

DAVIS, WM. B., CAPTAIN AND ASSISTANT-SURGEON.—Having reported at these headquarters, will proceed to Fort Totten, D.T., and report to the Commanding Officer of that post for duty. S. O. 86, Department of Dakota, May 24, 1882.

CARTER, E. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Having reported at these headquarters, is assigned to duty at Camp Price, A.T. S. O. 78, Department of Arizona, May 24, 1882.

RAYMOND, H. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Having reported in compliance with S. O. 103, c. s., A. G. O., is assigned to duty at Whipple Barracks, A. T. S. O. 77, Department of Arizona, May 22, 1882.

GRAY, WILLIAM W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON, FORT TOWNSEND, W.T.—Granted leave of absence for one month, to take effect the 3d proximo. S. O. 67, Department of the Columbia, May 24, 1882.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JULY 1, 1882.

ORIGINAL LECTURES.

LECTURE ON THE PRINCIPLES OF PLASTIC OR REPARATIVE SURGERY: WITH AN ATTEMPT AT CLASSIFYING PLASTIC OPERATIONS.

BY JOHN B. ROBERTS, M.D.,

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UNDER the term plastic surgery are grouped those operations which have for their object the construction, usually from the patient's own tissues, of absent parts, and the reposition or curtailment of parts displaced or deformed by accident or disease. The word "plasty" is often used with a prefix to indicate the organ formed: thus, "rhinoplasty" means the reconstruction of a nose; "cheiloplasty," the formation of a lip.

Plastic surgery is called into play to overcome both congenital and acquired defects and deformities. Its objects, therefore, may be stated to be—1, to correct deformity due to imperfect foetal development, as hare-lip and cleft palate; 2, to replace parts lost or deformed by injury or ulceration, as in closing fistules or clefts and reconstructing destroyed noses or lips; 3, to relieve or prevent distortion from cicatricial contraction, as after burns, cervical abscesses and the removal of tumors requiring ablation of a large amount of integument; and, 4, to curtail organs rendered unseemly by abnormal growth, as in greatly hypertrophied nose or tongue and in large and protruding ears.

The structures used in constructive operations are especially skin and subcutaneous cellular tissue, though mucous membrane, which becomes cutaneous when removed to the external surface, muscle, periosteum, and even bone, are at times successfully utilized.

The steps of a plastic operation are to be followed in regular succession, and the plan of procedure should be clearly fixed in the operator's mind before he makes the first incision. The patient must be in good health, lest erysipelas or ulcerative action attack the wounds made. When parts destroyed by syphilis are about to be reconstructed, it must be ascertained that

no syphilitic manifestations have occurred for many months, since a recurrence of specific ulceration would destroy the success of the plastic operation, and perhaps render future measures impossible. The successive steps are—1, freshening the edges of the vacuity to be filled, and obtaining one or more flaps, if such are required; 2, arresting all bleeding, since clots between the raw surfaces prevent union by first intention; 3, adjusting the parts in proper relation without tension, and retaining them in apposition by sutures; 4, closing the gaps left by removal of the flaps, if such have been employed; 5, dressing all the wounds with non-irritating applications; and, 6, preventing motion and frequent handling of the parts.

In complicated reparative procedures it is often necessary to accomplish the desired end by a series of operations, each one of which effects a result which affords a basis for subsequent measures. The time between any two operations may be weeks or months, for the secondary operation should not be undertaken until cicatrization and shrinkage have fully determined the condition gained by the primary one.

In applying the sutures, doubling-in of the edges of the flaps can be prevented by introducing the needle obliquely so that the punctures on the inner surface are farther from the margin than the external punctures. This causes the apposed edges to pout out a little at first; but the protrusion disappears with cicatrization: if not, it can be pared away subsequently. Wire sutures are generally preferable to thread, and may be fastened by twisting or with perforated shot. A few deeply-placed sustaining sutures may be advantageous in maintaining approximation, when the plastic operation requires the union of large surfaces extending inward to a considerable depth. The strain is thus taken from the superficial sutures, and rapid union of all portions of the wound is encouraged. Sometimes the support given by the pin suture makes it preferable to the interrupted suture. The tongue-and-groove suture of Dr. Joseph Pancoast is often a very excellent method of maintaining apposition in rhinoplasty and operations for exstrophy of the bladder. It consists in slipping the flap margin, which has been bevelled, into a groove made by dissecting up the edge of skin surrounding the raw surface to be

covered. Four raw surfaces are thus apposed. Wire or thread sutures are then applied through the several layers, so that the ends of each stitch can be tied externally over a perforated button or cylinder.

Between the ordinary metallic sutures stitches of thread are sometimes employed to make very accurate apposition of thin edges. They can usually be removed early, before it is safe to take out the metallic sutures. Hence the irritating effect of the thread is not exerted.

The gap left by the removal of a flap should be closed, if possible, by drawing the integument together, or by inserting a flap from the neighborhood, if one can be obtained which will put cicatricial tension in a less dangerous locality. If neither means is applicable, provision should be made for healing by granulation. Often the tissue dissected away to make a raw surface for adhesion of the flap can be utilized in closing the hiatus left by the elevation of that flap.

The various plastic procedures are included in three methods of operating, which I shall term respectively the methods by displacement, by interpolation, and by retrenchment. Under the displacement method are included operations done by simple approximation and by sliding. Under the method by interpolation are classed procedures accomplished by transference and by transplantation. The relations and characteristics of these modes of operating will be seen by the schedule.

METHODS USED IN PLASTIC SURGERY.

I.—DISPLACEMENT, stretching or sliding tissues.

1. *Simple approximation after freshening the edges*, as in hare-lip, fistules, etc.
2. *Sliding into position after transferring tension to adjoining localities*, as in V-shaped incision for ectropium, in linear incisions to allow stretching of skin to cover large wounds and to relax contracted cicatrices.

II.—INTERPOLATION, borrowing material from adjacent regions, from a limb, or from another person.

1. *Transferring flap with a pedicle.*

A. Putting in place at once,—

1. By rotating flap on the pedicle in its own plane through one-quarter or one-half a circle, as in making upper eyelid or nose from forehead.

2. By twisting flap on its pedicle, as in making side of nose from lip.
3. By everting flap entirely, so that its raw surface is uppermost, as in covering exstrophy of bladder by scrotal flap.
4. By superposing one flap on another which has been everted. This is done where a thick wall is desirable, as in closing the front of an exstrophy of the bladder.
5. By jumping, or carrying flap across a bridge of skin, and fixing only its end to the part to be repaired. When the flap has become attached, the pedicle is severed. This method is rarely employed.

B. Putting in place gradually by successive migrations.—By same manœuvres as when the flap is placed at once in its permanent position. This method is not very commonly needed, but may be valuable when there is nothing but cicatricial material in the immediate vicinity of the part to be repaired.

2. *Transplanting without a pedicle.*

A. By carefully suturing in the gap areas of tissue recently dissected from distant regions.

B. By skin-grafting.

C. By readjusting finger-tips, ears, and noses recently completely severed by injury.

Transplanting, except skin-grafting, is not very successful.

III.—RETRENCHMENT, removing superfluous material and getting cicatricial contraction.

1. By cutting out semi-elliptical or elliptical pieces of tissue, as in ptosis, cystocele, and prolapse of the rectum.
2. By cutting out triangular or wedge-shaped portions of tissue, as in closing ruptured perineum, decreasing the size of a lip, ear, or nose.

Retrenchment is often valuable, because it decreases the relative size of features; thus, if a nose has been partially lost, the upper lip appears too large, and its diminution will render the deficient nose less noticeable. When material is taken from the prominent feature, and especially if it is added to the other, the normal proportion is nearly re-established and deformity greatly diminished.

To secure success in plastic devices certain precautions should be observed. In the first place, the patient should be in good general health and free from irritation or inflammation about the seat of proposed operation. In transferring or transplanting it is essential to select normal integument for the flap, because cicatricial tissue is almost sure to slough if dissected from the subjacent structures. Approximation and sliding operations, however, may be successfully performed with cicatricial tissue, because these methods interfere comparatively little with the vascular supply from beneath.

All flaps should be made large, thick, and with a good vascular supply through a wide pedicle. As soon as the flap is dissected loose, it shrinks and becomes paler and cooler. Hence it should consist of skin and plenty of subcutaneous tissue, because thick flaps contract less and are more vascular. It should be made about one-third larger in area than the space to be filled, and should be allowed to cool as little as possible by being placed in position as quickly as practicable. For the last two reasons, I consider it preferable to freshen the edges of the part to be repaired before making the flap. This is, of course, especially true in the transplanting method.

It is sometimes well to cut a diagram of the flap out of paper or cloth, and mark a similar outline upon the skin with ink before beginning the dissection of the flap. It must be remembered that when the flap is formed it contracts very much. At the same time, the gap from which it has been taken appears larger than really is the fact, because of retraction of the margins of the wound. Nevertheless, it is well to make the flap at least one-third larger and much thicker than the space into which it is to be interpolated would seem to require, since the flap shrinks at once, and contraction and absorption from cicatricial changes go on for many weeks after union has occurred. Any redundancy is readily removed when the lapse of time proves it to actually exist.

To guard against imperfect nutrition and consequent sloughing of the flap, it is well to make its long axis correspond with the direction of the arterial supply, and to have its base presenting towards the cardiac portion of the arteries. Where there is very free anastomosis, as upon the face, this rule may be disregarded to a consid-

erable extent. The calibre of the supplying vessels must not be interfered with by too much twisting or tension of the pedicle, which must always be wide and thick. Injurious tension on the pedicle can frequently be prevented by cutting a pedicle with curved margins, which will allow increased stretching without occluding the vessels.

Skin free from hairs should be selected when possible, unless it is desired to make eyebrows.

The gap to be filled by interpolation and parts to be united by approximation should have their surfaces freshened by such free incisions as will give abundant areas of contact for union by first intention. It is an error to pare away so little tissue that only a thin raw edge is obtained. It is necessary to have broad surfaces of contact to make successful plastic operations, and these must be obtained even at the sacrifice of considerable material. The additional material removed will not be so great but that it can be supplied during the subsequent steps of the operation. Operations for hare-lip and torn perineum are often imperfect because of neglect of this rule.

When all hemorrhage from the flaps and freshened edges has been controlled, accurate approximation is to be made by numerous sutures, which should hold the parts merely in contact, allowing them to lie loosely and without tension.

It is important in constructing new noses and other features to be satisfied at first with obtaining a bulky semblance of the organ, and not to endeavor to trim down the structures to an accurate conformation, because it is impossible to estimate the amount and character of cicatricial shrinkage which will inevitably occur.

Exudation and organization of lymph sufficient to hold the parts together with moderate firmness occur in from two to three days; then some or all of the sutures may usually be removed. Metallic sutures cause so little local irritation that they may be allowed to remain as long as there is any danger of disruption of the adhering parts. The silk sutures, which are often useful in securing accurate adjustment at the very edges of the wounds, are generally removed early.

The success following well-devised and carefully-performed plastic operations is very gratifying. It is especially so in cos-

metic operations, since the improved appearance, though not equal to the normal condition, is a great solace to the disfigured patient. It is always a long time before the cicatrices become white and soft: therefore the full result is not apparent until many months have elapsed. The scars always remain visible, however: hence the photographic illustrations of many published cases are deceptive in the apparent absence of scarring. The disability due to fistules, ruptured perineum, and many other conditions can often be entirely removed by plastic surgery.

If gangrene of the flap does not occur before the end of the fourth day, it is not likely to take place, and the integrity of the operation is pretty well assured. If, however, during the first three or four days, the flap becomes grayish and pulpy and shows a loosened cuticle, or, on the other hand, if it assumes a dry and withered appearance, it is evident that destruction of more or less tissue by sloughing is supervening. The surgeon should, nevertheless, leave the parts in position, keep them warm and moist, and disturb the dressings as little as possible, because the gangrene may involve only the edges or the superficial layers of the flaps. A very small amount of living tissue remaining after the limitation of the sloughing process will often be very serviceable in making the operation entirely, or at least partially, successful.

1118 ARCH STREET.

ORIGINAL COMMUNICATIONS.

MILK ANALYSIS.

*Read before the Philadelphia County Medical Society,
February 22, 1882,*

BY ARTHUR V. MEIGS, M.D.,
Physician to the Pennsylvania Hospital.

GENTLEMEN,—In addressing you this evening I desire to lay before you the results of some experiments made in the last year with milk, and to detail a method for its analysis which I have devised. If my results are correct,—and I am quite satisfied they are,—they will prove useful in putting upon a more settled basis the much-vexed question of the artificial feeding of infants; and my method of analysis offers a rapid means of determining with certainty and exactitude whether any given specimen of commercial milk has

been adulterated. The question of the composition of milk may seem, to any one who has not investigated the subject, one upon which ample and exact information may be had by turning to any one of the many standard works on physiological chemistry. That this is not the case, in regard to human milk at least, an examination of a number of books has convinced me. The most widely different results are quoted without comment by different authors, and in some instances there are placed upon the same page, in parallel columns, figures so different that an examination of them makes it plain that both cannot be correct. Two of the most widely quoted analyses are those of Vernois and Becquerel, and of Simon, whose results, which are nearly identical, seem to me to be certainly incorrect. These analyses are taken as standard by Carpenter, Kirke, Marshall, Edward Smith, Kehrer, Gorup-Besanez, and others. The time is too short for me at present to make a detailed statement of their processes, or to attempt to show what I consider to be the fallacious portions. It will be sufficient to say that Vernois and Becquerel do not separate each of the constituents of milk by itself, but satisfy themselves in determining the amount of casein simply by difference; that is, when they come to the stage of analysis at which they desire to separate the casein and sugar, they attempt to precipitate the casein and filter off the sugar; then they estimate the amount of sugar in the filtrate, and assume that what is not sugar is casein. Any one who will repeat their process will find, I think, a large proportion of sugar left on the filter, and this they class as casein, thereby making the percentage of casein much larger, and that of sugar much less, than it actually is. Simon attempts to separate the casein and sugar by the addition of an excess of alcohol to a concentrated watery solution of the two. If a concentrated solution of milk-sugar in water is treated with an excess of alcohol, a part of the sugar is precipitated. This precipitation of sugar doubtless took place in Simon's experiments, and caused him to class a portion of the sugar as casein. Mr. Wanklyn, who has written the best book with which I am acquainted upon "Milk Analysis," says, "Milk exhibits great constancy of composition. . . . The milk of an animal has probably very much the same constancy of composition as the blood of

the animal. . . . As will be readily comprehended, this constancy of composition is a cardinal fact in milk analysis. If milk were variable in strength, as urine is, chemical analysis would fail to detect the watering of milk." Mr. Wanklyn confines himself to the examination of cow's milk; but if what he says of cow's milk is true, why should the case be different with human milk? Why should human milk vary so much as the analyses of different chemists would lead us to believe, when such great uniformity of composition is exhibited by the milk of the cow? I will quote three analyses of human milk to show how widely at variance are the results of different chemists: first, one by Henri and Chevallier, then that of Vernois and Becquerel (the mean of eighty-nine analyses), and, last, one from the *Practitioner* (vol. xxvi., 1881), by Messrs. Dolan and Wood, of Halifax.

	H. and C.	V. and B.	D. and W.
Water.	87.95	88.908	89.045
Fat.....	3.55	2.666	1.764
Casein	1.52	3.924	7.005
Sugar.....	6.50	4.364	1.921
Ash.....	.45	.138	.265

100.000 100.000

(The analysis of Henri and Chevallier, it will be observed, does not add up quite correctly. It is quoted as found in the work of Gorup-Besanez.)

It is impossible that these three analyses can all be correct. I cannot believe that human milk ever contained, as Messrs. Dolan and Wood state, seven per cent. of casein and less than two per cent. of sugar. The method they pursued was to estimate the sugar by the use of Fehling's solution, and calculate the casein by difference. The copper test, I am convinced, is not to be depended upon as a means of quantitative analysis if there is no way of proving the results arrived at, and when an unknown quantity of sugar is to be determined. In support of this belief, I may state that I once sent two solutions of milk-sugar of known strength to a reputable sugar-chemist, and asked him to estimate the amounts contained by means of the copper test. In both instances he concluded that the solutions contained about one-third less than was actually the case.

I agree with Mr. Wanklyn that milk usually exhibits great uniformity of composition. This is particularly the case with that which we get from dealers, for then it

is always the milk of many cows mixed together; and of course the mixed milk of a whole herd is not liable to the same variations as would be the milk of any one individual cow. There is one point, however, upon which I must differ from him, and it is that I believe the fat to vary very much, although the other constituents do exhibit great uniformity in their amounts.

My own analyses prove quite to my satisfaction—and this is the point I particularly desire to bring to the attention of the Society—that human milk never contains more than from seven-tenths of one, to one and a half per cent. of casein, and about seven per cent. of sugar. Now, if this be true, how different is human milk in its composition from the idea commonly accepted by the profession! In many books upon physiological chemistry the results of Vernois and Becquerel are quoted as being the mean of eighty-nine analyses, and therefore they are given the first place in authority. A comparison of their figures and those of Simon with any ordinary analysis of cow's milk shows almost an identity, the only difference of any considerable amount being in the quantities of ash given; and yet who is prepared to say that human and cow's milk are identical? I quote for comparison an analysis of "average country milk," as given by Mr. Wanklyn ("Milk Analysis," etc., New York, D. Van Nostrand, 1874), and with it the mean result, as given by Vernois and Becquerel (incorrect, in my opinion), of eighty-nine analyses of human milk. (Mr. Wanklyn's figures have been reduced to percentage.)

	Wanklyn.	V. and B.
Water	87.551	88.908
Fat.....	3.071	2.666
Casein.....	4.043	3.924
Sugar.....	4.626	4.364
Ash	.709	.138

100.000 100.000

Some chemists have attempted to show that the difference lies in the casein, that of cow's milk being unlike that found in human milk. The fact seems to me to be plain, whatever may be the differences between the two caseins, that the milk of the woman contains only one-third as much as that of the cow. The question is often asked, Why does human milk coagulate so much less readily and so differently from cow's milk? The answer is that it contains a much less pro-

portion of casein, the coagulable matter. Human milk cannot form the large leathery coagula so often produced in cow's milk, because the casein is relatively dissolved in a so much greater quantity of water. Biedert (*Virchow's Archiv*, Bd. lx., 1874) has written an elaborate and much-quoted article to prove the difference between the caseins contained in human and cow's milk, and makes a very strong case, but fails to notice the great and cardinal difference, that the proportion of casein is much less in the one than in the other. Casein is in its nature akin to albumen, and every physician has noticed the different effects produced when albuminous urines containing different amounts of albumen are boiled or treated with acid. If the amount of albumen is small, the coagulation takes place in the form of a mere opalescence of the fluid, the coagula are individually so small that they cannot be seen; whereas if the amount of albumen be large, the coagulation takes place in heavy white flakes. Why can we not accept so plain an explanation of the different coagulability of the two milks, that the one contains much less coagulable matter than the other, rather than seek for some far-away difference in the chemical composition of the casein?

Casein is universally acknowledged to be the element in cow's milk which the infant stomach finds most difficult of digestion; and yet most physicians and nurses forget that in diluting milk to reduce the proportion of casein they reduce also the proportion of fat much below the amount contained in healthy human milk, and the sugar still lower, because, even in its normal condition, human milk contains much more sugar than does cow's milk. Therefore cow's milk, in order to make it a proper food for infants, should be reduced one-half or two-thirds with water, and cream and sugar added to make the fat and sugar amounts equal those contained in healthy human milk. The giving of pure cow's milk to new-born infants, as advised by M. Parrot, is altogether inadmissible, both because experience shows that infants so fed do not thrive, and on the theoretical ground that cow's milk is too unlike human milk to be a good food for the new-born infant. I wish, then, to be clearly understood to assert, as the result of my experiments, that human milk contains only from seven-tenths of one, to one and a half per cent. of casein and

about seven per cent. of sugar, and that it never contains, as is the commonly accepted belief, nearly four per cent. of casein, for which latter belief I think the erroneous and widely quoted results of Verneis and Becquerel and of Simon are largely responsible.

To carry out the method of analysis I propose, 15 c.c. of milk are required. The first step is to discharge from a pipette 5 c.c. of milk into a small platinum dish, and at once weigh it and note the weight. This dish is then placed in a water-bath, and the water kept at the boiling-point until the milk is completely dried and ceases to lose weight. This takes, as Mr. Wanklyn points out, about three hours, when 5 c.c. of milk are used. (I have found most convenient as a water-bath a common skillet, and into this I place a disk of copper, with holes in it, of such a size as to hold the platinum dishes to be used, the whole being floated upon copper air-chambers soldered to the under side of the disk. This apparatus may be left for hours in the bath without any watching, and yet the platinum dishes are constantly immersed in the boiling water.) As soon as the weight becomes constant, it must be noted, and the contents are then incinerated, best over a blast-flame, and the weight again noted. (In incinerating, the heat used must at first be moderate, and then gradually increased.) This ends the work upon the first 5 c.c., and gives the amounts of water, solids not ash, and the ash. At the same time that the first 5 c.c. are weighed, 10 c.c. must be weighed in another dish, care being taken, of course, that the weight is exactly twice that of the 5 c.c. This is poured into a high, narrow bottle (the ordinary 100 c.c. graduated bottle answers the purpose), and 20 c.c. of distilled water added, this being used to wash all the milk from the vessel in which it has been weighed into the bottle. To this are now added 20 c.c. of ether. The bottle must then be tightly stoppered and agitated violently for five minutes; 20 c.c. of alcohol are then added, and it is agitated for five minutes more. If it is then set down for a few minutes, the contents will be found to have separated into two layers: on top will be found ether, containing fat in solution, and below will be a mixture of part of the ether, the alcohol, and the water, containing coagulated casein in suspension and the sugar in solution. The ethereal solution, which

is on top, is then drawn off with a pipette, as nearly as can be done without disturbing the lower layer; 5 c.c. of ether are poured on to mix with what fat is left, and this drawn off. Ether I have usually poured on and drawn off five times, 5 c.c. being used each time, so as to remove all the fat. The ethereal solution of fat is now dried over warm water, and finally, for a few minutes, over boiling water: the resulting weight—that of the dish being deducted—is, of course, the weight of the fat. We have now left in the bottle the sugar and casein, with the salts. The contents are carefully washed into a large platinum dish, and dried over the water-bath. The dried residue is treated with boiling water, and the dish and contents placed aside to settle. The undissolved casein soon settles to the bottom, and the clear solution of sugar is poured off. The solution of sugar is now again dried, and the same process repeated, the sediment being added to that which was obtained before. This must be done four or five times, until it is found that when boiling water is poured upon the dried sugar it dissolves completely, no flocculi of casein being seen in the solution. The casein residue is then, after being dried, treated once or twice with boiling water, to wash out any sugar that may have been left in it, care being taken that none of the solid casein is poured off with the matter dissolved. This sugar is added to that formerly obtained, and the two substances are then ready for the final drying, which must be done over the water-bath, and continued until they cease to lose weight sensibly. The two residues are then incinerated over the blast-flame, and the loss in the burning gives the weights of the casein and sugar.

The only error that strikes me as possible in this method is that a small portion of soluble albumen may be classed as sugar. I do not think, however, that this occurs, for I have tried in every way to separate such a substance from my sugar residue, and never succeeded in obtaining any appreciable quantity. The method possesses many advantages: it is more exact than any other I have tried, the loss being usually only a small fraction of one per cent.; then it should be valuable as offering a scientifically exact but rapid method of determining the amount of fat. The exact amount of fat in any given sample of milk can be determined in at most half an hour to an

hour. When a full proximate analysis is made, the process is very tedious, taking from three to five days to be completed. If, however, it is not necessary to separate the casein and sugar,—as is the case in examining commercial milk,—an analysis can be completed in about three or four hours. The pouring of milk into the street, as has lately been done in some of our cities, because it failed to show a certain specific gravity when tested with the lactometer, is a great outrage; for an analysis which will show the amount of water, fat, and ash is the only true test of milk. The idea of separating the fat by means of ether and alcohol was suggested to my mind by the perusal of an article by Ed. J. Hallock (*American Journal of Pharmacy*, October 1, 1874). The use of the reagents in the proportions suggested by him, however, fails to effect the purpose, as any one can see who will try the process; for the oil-globules are set free instead of being dissolved in ether, as happens when my proportions are used, and they only partially rise to the top, many becoming entangled in the meshes of the coagulated casein and remaining thus distributed through the fluid. The method I propose also extracts the fat more perfectly than that used by chemists generally, of extracting it with ether from the dried residue. This I have proved by actual experiment, taking two samples of the same milk. When the fat was extracted from the dried residue of 10 c.c. of milk, 270 milligrammes only were obtained, whereas my own method gave 305 milligrammes. This difference is large enough to be a matter of great importance where such small quantities are used as is often the case in milk analysis.

In calculating results it is easiest to bring the amount of each constituent up to what is contained in 100 c.c. This is done by multiplying the amounts of water and ash by twenty, as they are arrived at by the use of 5 c.c., and those of fat, casein, and sugar by ten, as they are arrived at by the use of 10 c.c. of milk. The sum of the amounts of the different constituents will be found to be from one hundred and one to one hundred and three, as the milk happens to be of high or low specific gravity. A use of the simple rule of three enables one easily from this to calculate the quantities in parts of one hundred (percentage). I append five analyses of human milk, which I have made with great

care, and which I believe to be as nearly correct as may be:

Water.....	87 106	87 695	89 038	83.001	87 306
Fat.....	4.370	3.682	2.412	9.045	4.498
Casein.....	1.268	.938	.730	.787	1.083
Sugar.....	7.120	7 568	7 703	7.69	6 996
Ash.....	.136	.117	.117	.098	.117
	100.000	100.000	100.000	100.000	100.000

The error in these analyses was, in No. 1, seventy-eight thousandths of one per cent. in excess; in No. 2 there was no error; in No. 3 the loss was forty-eight thousandths of one per cent.; in No. 4 there was a loss of forty-nine thousandths of one per cent.; and in No. 5 there was twenty-nine thousandths of one per cent. in excess.

Condensed milk, in my opinion, enjoys its high reputation as an infant food because, when used as it commonly is, the proportions of casein and sugar approximate more nearly to those contained in human milk than in the usual dilutions of cow's milk; and it fails because it gives the infant too little fat, and because no preserved food can be so good as the same substance when fresh. Another grave objection to its use is that as children get older the quantity given them is increased, and they get much too large an amount of saccharine food, and become very fat, the fat being soft like that of persons who drink too much malt liquor.

In conclusion, I will reiterate that the result of my experiments has been to convince me that human milk contains only about one-third as much casein as cow's milk, and that in order to make the latter a proper food for infants we must dilute it with water and add cream and sugar. The main object of this paper has been to state my conviction that human milk never contains more than the quantity I have so often mentioned of casein; and this observation I consider as new, for, although Henri and Chevallier and some other writers have before arrived at nearly the same analytical results, yet I know of no one who has stated that human milk contains only this quantity, and never more, thereby denying the correctness of most previous analyses. If time proves my view to be correct, I think it must make a change in the views of the profession upon the proper mode of feeding infants. On some future occasion I hope to publish precise directions as to my view of the proper combination of cow's milk, cream,

water, and sugar, to be used as food for new-born infants.

1322 WALNUT STREET.

THE LIGATION OF LARGE VENOUS TRUNKS.

*Read before the Philadelphia County Medical Society,
March 8, 1882,*

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GENTLEMEN,—Two circumstances at the present moment combine to render of especial importance the renewed consideration of the hazards attending the ligation of veins: first, the fact that the use of anæsthetics and antiseptics has made much more common and justifiable than ever the undertaking of extensive operations for the removal of morbid growths; second, the fact that operative procedures involving the large vessels are now more often made incumbent upon the surgeon, since it has been demonstrated that by thorough extirpation, both of all visibly diseased tissue and of all adjacent tissue that might possibly be infected, permanent relief from many malignant growths is possible.

In the removal of foreign growths from the neck, the axilla, the groin, the ham, or the abdomen, the dangers of exposure, of wounding, or excision of a portion of a large venous trunk must always be considered.

I believe that deliberate interference with large veins is still regarded with disfavor by the profession as a whole; and, because of the increasing pressure which is now being often felt to attack them, I have ventured to introduce the subject for the purpose of eliciting the personal experience of the members of this Society. For the purpose of giving to the discussion a practical clinical direction, I will briefly detail some cases.

Case I.—Large adenoma of neck—Ablation, denudation, and exposure of internal jugular vein—Recovery, without untoward complication.—Peter H., aged 37 years, native of Sweden, of robust physique, was operated upon by me for the removal of a large cervical adenoma, November 13, 1880. The tumor, situated on the right side of the neck, was bound down by the sterno-cleido-mastoid muscle, and projected from beyond the anterior border of this muscle so as to crowd the larynx to the left of the median line. Posteriorly it occupied the space beneath the mastoid pro-

cess. The enucleation and removal of the tumor necessitated the denudation of the internal jugular vein in the middle of the neck over a space of one inch and a half, and its exposure for more than half an hour. Three veins of considerable size in the mastoid region required ligation. No special antiseptic measures were employed. The wound was dressed to secure primary union as far as possible, which was accomplished over the greater part of its extent. The venous ligatures came away during the third week. The patient made a rapid and complete recovery, without any symptom indicating any disturbance of the internal jugular vein.

Case II.—Mammary carcinoma—Ablation—Recurrence for second time in axillary glands—Ablation—Wound and ligature of axillary vein—Recovery, with persistent œdema of arm.—Mrs. Susan A., aged 63 years, was operated upon by me, January 15, 1881, for the removal of an axillary tumor which had recurred for the second time after a primary ablation of the breast for carcinoma. The primary operation I had performed May 29, 1878. A year later (July 8, 1879), immediately upon its detection, an enlarging axillary gland was removed. A second recurrence, involving other of the axillary glands, was allowed to gain greater headway before the patient applied for relief. All the axillary glands were then involved. In the course of their complete removal it was necessary to sever the subscapular vein at its point of entry into the axillary. The axillary vein was then ligated above and below the wound with silk thread, the operation not having been done antiseptically. The progress of healing was delayed only by the presence of the ligatures, which came away during the third week. At the present time—more than a year after this third operation, and nearly four years from the date of the first—this lady remains in apparent good health, without any sign of a recurrence of carcinoma; but there persists in the arm of the affected side some œdema and a perceptible diminution of strength.

Case III.—Wound of internal jugular vein—Lateral forcipressure—Recovery.—In November, 1881, W. B., aged about 45 years, stabbed himself in the neck with a small dagger. The weapon, having been thrust into the right side of the neck, passed through the sterno-cleido-mastoid, grazed the internal jugular vein, inflicting a small wound in it, and finally penetrated the trachea. My brother, Dr. James E. Pilcher, was at the side of the patient in a few minutes after the infliction of the wound, the hemorrhage meanwhile having been kept repressed by pressure. Having enlarged the wound sufficiently to enable him to identify the vessel and expose the opening into it, which was a simple slit in its anterior wall, a quarter of an inch in length, he applied a lateral ligature; but this was caused

to immediately slip off by an extension of the neck, produced by the falling back of the head when the patient was being placed in bed. Hæmostatic forceps were then applied, which, perfectly arresting the hemorrhage, were left to produce permanent obliteration of the wound in the vein. They were removed on the second day thereafter. No further hemorrhage took place. The wound healed by granulation, and a perfect recovery was accomplished.

In the discussion of these cases we must consider first the dangers of the denudation of veins, referring to the writings of Broca, Ollier, and Nicaise on the subject. A consideration of the fact that in certain cases disastrous phlebitis, and in others immunity therefrom, occurs, led me to the conclusion that it is not the simple exposure of a vein which causes in any case phlebitis and thrombosis. A study of the pathology of phlebitis, as at present accepted, indicates that the cause of the occurrence of inflammation and thrombosis in denuded veins is either, and most frequently, the extension to them of inflammation from the tissues by which they are surrounded, or the violence to which their external cellular tunic has been exposed, a primary external inflammation thus being required as the necessary antecedent of the affection by extension of the inner vascular tunics. Therefore, if the character of an operation and of the after-management of the wound be such as to make possible primary union of the wound-surfaces, or their preservation from inflammation; if undue violence has not been done to the denuded vein in the course of the operation, no fear need be entertained of the development of phlebitis and extensive and progressive thrombosis within it. If, however, such favorable conditions cannot be secured, and the vein is necessarily placed at the bottom of a suppurating wound for some time, or in the course of the operation has suffered much contusion, the probabilities of the development of disastrous phlebitis are great. In such cases two courses of action are open to the choice of the surgeon,—the expectant course, which arises from the feeling that it will be time enough to combat the phlebitis when it is actually present, or the anticipatory course, which would ligate the vein at the borders of the wound and exsect its exposed portion. The prudence of a surgeon in such a case would be likely to be influenced by his views as to the dangers attending ligation.

The next point is the question of the ligation of veins. In this we are saved any embarrassment from considerations as to serious interference with the return of blood to the heart, so free are the collateral channels which supplement the great venous trunks of the body; ligation of the internal jugular even is not attended by any permanent inconvenience to the cerebral circulation, as has been abundantly demonstrated by many cases. The chief dangers which are to be apprehended from the application of ligatures to veins are inflammatory in character, being periphlebitis, thrombosis, and suppurative phlebitis proper. This inflammation, when it arises, has its origin in the perivascular connective tissue and in the outer connective-tissue tunic of the vein, and results from the irritation produced by the presence of the ligature. The application of a ligature, according to the traditional methods, always provokes inflammation in its track, while its removal is accomplished by the ulceration of the tissues which it encircles. In the vast majority of cases this inflammation is simple and circumscribed, and serves only to mat together the tissues adjacent to the ligature. The absence of any special vulnerability peculiar to the venous tunics being thus shown, those rare cases in which diffused periphlebitis, with its disastrous consequences, is produced, must be attributed to the general constitutional conditions of the particular patient.

It follows that, since in general little fear is to be apprehended of disastrous inflammatory complications following the application of a ligature to a vein, it would be better, in those cases in which in the course of an operation a vein has suffered much contusion, or if its continued exposure at the bottom of a suppurating wound is unavoidable, that the vein should be excised rather than be left to the more imminent dangers of thrombosis.

Passing to the consideration of the treatment of wounds of veins, and of the justifiability of attacking growths the complete removal of which involves the severing of large venous trunks, it can be affirmed that the dangers from the use of the ligature are too remote to cause any hesitation in its employment, or to be permitted to embarrass the needed thoroughness in the removal of any growth.

Attention must also be called to the fact that in every case in which the ordinary

silken ligature is used the continuous irritation of its presence during the three or four weeks that may be required before it is finally discharged is a source of anxiety. To lessen the disadvantages and possible dangers of such continuous irritation, we may resort to the substitution of pressure-forceps for the ligature. Experience has demonstrated that the continuous application of these for from two to four days is sufficient to secure the permanent sealing up of even large venous trunks; painless and unirritating, they may be left in the wound as long as may be deemed necessary, and then be withdrawn, having to a minimum degree interfered with primary union. The manner of their use and their possible advantages are shown in Case No. III., in which they were the means of conducting to a successful termination the hazardous experiment of securing the union of a lateral wound of the internal jugular vein without interfering with the regular current of blood along its interior. There will be but few conditions in which, for the arrest of hemorrhage from veins, the use of such forceps will not be found superior to that of the ordinary ligature in these respects: they produce less local irritation, no ulceration and division of constricted tissues, and their application is for a very much shorter period of time.

The next important point is the use of animal ligatures applied with antiseptic precautions. I hold that by the use of carbolated animal ligatures, and with proper antiseptic precautions in operating, all irritation and inflammation could be prevented in the ligation of a vein, and the primary union of wounds secured. The ligation of veins will be thus robbed of those dangers which have been seen to depend upon the irritation of their external tunic and of the perivascular connective tissue. The suppression of this element of irritation and inflammation in the reparative processes following the ligation of a vein has been a stumbling-block to many in accepting this method of securing divided vessels, since the agency of adhesive inflammation in sealing up the ends of the divided vessel has been esteemed indispensable. Its absence, therefore, after the application of an animal ligature has been thought to endanger the occurrence of secondary hemorrhage upon the absorption of the ligature. Clinically, however, this theoretical objection has not been

found to be supported. A special and minute study of the processes by which obliteration of veins is accomplished, after ligation with antiseptic catgut, is yet to be made. The elements which such a study present are very simple, thanks to the antiseptic methods which eliminate entirely the disturbing influence of inflammation. Ligation with the catgut thread means simply that at some point in its course the walls of the vein are brought into firm, close, and prolonged contact, and kept encircled by a strongly compressing force for several days at least. The condition is very analogous, each of its elements, however, being much more intense and rapid in its action, to that presented by the umbilical vein, or the foramen ovale of the interauricular septum, in the new-born child. As, in these, no process of inflammation is needed to cause the disappearance of the inner cell layer and the confluence of the connective-tissue elements, but simply the continuous apposition of their walls from disuse, so in the ligated vein as the result of apposition and compression it is not incredible that in a short time the absorption of the inner tunic and the organic union of the remaining elements of the walls of the vessel should take place.

Some experiments were made by myself, with the co-operation of my colleague, Dr. George R. Fowler, for the purpose of studying the processes of repair in veins after ligation with antiseptic catgut. They were made upon a goat; and the internal jugular and femoral veins were the vessels ligated. Microscopic slides, prepared by Dr. J. H. Hunt, showing the conditions presented on the second and ninth days after the application of the ligatures, are here presented for examination, and these diagrams on the blackboard will facilitate the explanations. In the sections, the ligature—of chromicized catgut—showed no signs of disintegration or softening, and appeared as if an integral part of the tissues among which it was lying. The division of the walls of the vein into three principal layers was well shown. The ligature appeared to be embedded in the tissue of the external tunic; the middle tunics at the constricted points appeared to have become fused together; and the inner tunics, having disappeared at the point of constriction, were traceable as *culs-de-sac* on either side. At no point was there any appearance of local conges-

tion or of inflammation. These observations were too limited to serve as a basis for any conclusive generalization, but for purposes of discussion I will formulate the conclusions towards which they point, to substantiate or contradict which further experiment would be necessary. These preliminary propositions are that repair, in the case of veins that have been ligated with antiseptic catgut, is secured, first, by the absorption of that part of the inner coat compressed by the ligature; second, by the fusion or organic union of the apposed middle tunics; third, by the incorporation into the outer tunic of the substance of the ligature; that this repair is perfect without the intervention of any clot; that a thrombus in the *cul-de-sac* of the vein is not always present; and, finally, that throughout the whole process there is no inflammation either of the vein or of its investing connective tissue.

In conclusion, and by way of *résumé*, it may be said that, while the consideration of clinical experience and of the pathological processes attending the traditional methods of ligation had led to the conclusion that the dangers from the use of the ligature were too remote to cause any hesitation in its employment, or to be permitted to embarrass needed thoroughness in the removal of any growth, these dangers were still more minified by the use of animal ligatures under antiseptic precautions.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINICAL SERVICE OF JAMES H. HUTCHINSON, M.D., ONE OF THE PHYSICIANS TO THE PENNSYLVANIA HOSPITAL, PHYSICIAN TO THE CHILDREN'S HOSPITAL, ETC.

Reported by WILLIAM H. MORRISON, M.D.

ACUTE RHEUMATISM COMPLICATED BY PERICARDITIS.

GENTLEMEN,—At my last lecture I exhibited to you several cases of disease of the heart, and told you that I had other cases to show you; but I wish, before proceeding with the subject of to-day's lecture, to make a few remarks on one of the patients you saw at our last meeting.

You will recollect a young German girl who had acute rheumatism, affecting the knees principally. The knees were very much swollen, but the redness was not so

marked as is usual in rheumatism. You will also recollect that she was the subject of commencing disease of the heart. There was a well-marked systolic murmur heard at the apex, and at one time there was heard a distinct friction-sound; but this disappeared in consequence of effusion taking place into the pericardial sac. This effusion has increased in amount until dulness on percussion extends up to the first rib, and is pyramidal in shape. Dulness depending upon effusion into the pericardium assumes this pyramidal shape with the apex of the pyramid directed upward. At the present time the effusion is undergoing absorption, and she is doing well.

There were the symptoms of acute rheumatism, and also those of pericardial effusion. We have suspended the salicylate of sodium, and put her on the use of Basham's mixture. This is indicated not merely in consequence of the effusion, but also by the anæmic condition of the patient. Under this treatment the effusion seems to be undergoing absorption, and I have no doubt that in a short time the patient will be convalescent.

Pericardial effusion is sometimes a very serious complication. In the early part of my practice, while attending the Episcopal Hospital of this city, I had two deaths, one after the other, from pericardial effusion. I had left the patients apparently doing well, but on my visit the next day found them dead. As it may, therefore, be the cause of sudden death, it is not by any means a complication to be looked upon as one of no importance. In the two cases to which I have referred, the effusion was thrown out quickly. You can readily understand that a small effusion occurring rapidly will be more serious than a large effusion taking place slowly.

In these cases it is proper to insist upon the patient maintaining the recumbent position, for this throws less work on the heart and prevents embarrassment of the circulation.

AORTIC OBSTRUCTION AND MITRAL REGURGITATION.

The patient before you is an old woman who came in with some chronic arthritic trouble of the hip-joint, which is rather surgical than medical in character. Upon examining her closely, as we do all patients admitted to this hospital, we found a murmur over the heart.

This is her history: "R. C., æt. 68;

native of Ireland; a widow; cook by occupation; admitted November 8, 1881. She has generally been very healthy. Several months ago she was treated in this hospital for arthritis of the left hip-joint. Since this time the joint has been free from pain until five weeks ago, when it again became painful. The pain began in the left hip, and extended down the thighs.

"The eyes are somewhat inflamed and painful, the appetite good, the bowels regular. Examination of the lungs gives negative results. Examination of the heart.—The impulse of the heart is very indistinct. It is best felt in the fifth interspace. There is no great increase in the cardiac dulness. On auscultation a murmur is heard at the apex. It is systolic in point of time. A murmur is also distinctly heard at the aortic cartilage, but is less distinct here, and not heard over the back. In the erect position the apex-murmur is less distinct; that over the aortic cartilage is a little rougher and harsher."

In the first place, with the exception of the arthritis of the left hip, there does not seem to have been at any time anything that we can assume to have been rheumatism. The examination of the heart in women, of course, presents rather more difficulty than in men. If the mammary gland is large and pendulous, it is sometimes impossible to distinguish the apex-beat. In this case, however, I find it in the fifth interspace, a little outside of the normal position: I find that there is no marked increase in cardiac dulness. It is very nearly normal.

Listening over the apex, I hear a very distinct murmur, which is systolic in point of time,—*i.e.*, it occurs with the systole of the heart. A murmur is also heard at the base of the heart. It is very important, as I have told you, not only to recognize the presence of a murmur, but also to find out, if possible, where it is most distinctly heard. I place my ear over what is known as the aortic cartilage (the second cartilage on the right side), and I hear the murmur very distinctly. It also is systolic. It therefore becomes a nice question to determine whether this murmur is identical with the one heard at the apex.

There are, as you are aware, two causes of chronic systolic murmurs,—*viz.*, mitral regurgitation and aortic obstruction. It is, consequently, important to determine whether we have here aortic obstruction, or

mitral regurgitation, or both. This is a question usually not very difficult to determine. It simply requires a minute examination of the character, quality, and pitch of the sound. If we find these to be the same, and also find that the sound is loudest at the apex and diminishes in intensity as we approach the aortic cartilage, we have no difficulty in deciding that the two murmurs are due to the same cause, and that the murmur which is heard at the base is identical with that which is heard at the apex, and therefore dependent upon mitral regurgitation. The same reasoning is, of course, applicable when the murmur is due to aortic obstruction. If, on the other hand, we find that the murmurs are dissimilar in character, quality, and pitch, and also that there is a point midway between the aortic cartilage and the apex where the murmur is least intense, we have reason to conclude that we have two murmurs due to different causes.

I have made this examination very carefully in the present case, and I have found that the murmur at the base is rougher and harsher than at the apex. The case is, therefore, one of mitral regurgitation with aortic obstruction.

It is also necessary to determine whether or not the trouble is serious. In making an exact diagnosis of heart-disease, we of course depend to a great extent upon the physical signs, but in making our prognosis it is more important to rely upon the general symptoms.

We have here an old woman, over sixty years of age, presenting no evidences of cardiac disease except those furnished by the physical signs. In fact, I suppose this lesion might very readily have escaped attention if the patient had not had this slight arthritic attack; but, having had this, our attention was, of course, directed to the heart, and we found the murmurs. She has no serious impediment to the circulation. There is no dropsy, no albuminuria, and no tendency to congestion of the lung; no symptom which points directly to the heart except the murmurs. We can, therefore, in this case make a favorable prognosis. The slight amount of hypertrophy which has occurred is sufficient to overcome the two impediments to the circulation caused by the slight aortic obstruction and the slight mitral regurgitation. It is important in the treatment of this case to prevent the loss of this compensa-

tion. As long as the heart is able to overcome the obstructions, so long will the patient not suffer; but let her contract a severe disease, or let her general strength be run down from any cause, and dilatation of the heart will occur, which will, of course, be a serious complication.

This case calls for no special treatment. We have, therefore, treated her on general principles, to prevent, if possible, the occurrence of any dilatation of the heart. This is best done by nutrients and tonics. The arthritic attack does not call for active treatment. She is now taking good diet, cod-liver oil, and tonics. When first admitted, she was taking the iodide of potassium; but this was not continued after the active symptoms had disappeared.

ACUTE TONSILLITIS.

I shall now bring before you an example of a slight affection, but one which sometimes gives considerable trouble. It is a case of tonsillitis, or, as it is commonly called, quinsy. Inflammation of the tonsil is generally the result of a partial exposure, especially of the neck, to cold. This patient, who, as you see, is an anæmic, unhealthy-looking girl, contracted the disease while in the house under treatment for amenorrhœa. Tonsillitis may be the consequence of some general disease, as, for instance, scarlet fever, but, as I have said, it is generally the result of some local cause.

In this case the disease has passed its height, but there is still considerable enlargement of the tonsils, especially on the right side. When the patient was first taken sick, the amount of swelling was so great, and she had, in consequence, so much difficulty in opening her mouth, that it was almost impossible to get a good view of the fauces. You will notice that the tonsils are simply swollen and reddened; there is no deposit upon them. It is very important to examine carefully the throat for the presence of false membrane. If there is no membrane, the inflammation is probably of a simple character. Do not mistake, as is sometimes done, the secretion of the tonsillar glands for membrane. You can readily understand that when the tonsils are inflamed there may be, in earlier stages especially, an increased secretion, and you will often find a cheesy, curdy mass on the tonsils; but this does not indicate the presence of diphtheria.

The enlargement of the tonsils may become so great as to cause marked interference with deglutition, and also give rise to partial deafness from interference with the Eustachian tube. Even liquid food is often swallowed with great difficulty. The swelling also, by closing up the passage to the larynx, renders the respirations exceedingly labored and difficult, and may give rise to cyanosis from deficient aeration of the blood.

As a general rule, tonsillitis runs a favorable course. It reaches its greatest height in two or three days, and then there is a rapid subsidence. In other cases, however, the course is less favorable. We have the enlargement and then the breaking down of the tonsil, forming an abscess. It is sometimes necessary to puncture these abscesses. In doing so, some little care should be taken, as several large vessels run over the tonsil. It is better to make the puncture towards the posterior part, as the vessels are on the anterior portion. In some cases the gland ruptures spontaneously. In other cases we have left a chronic condition, in which the gland remains permanently enlarged. It is often necessary in such cases to resort to surgical means to get rid of it, either by caustics or by cutting off the tonsil with an instrument made for this purpose. Many of these cases of chronic enlargement will, I think, yield to nitrate of silver in solution, or to the tincture of iodine.

In this case the treatment was very simple. There was no necessity for active treatment. Formerly it was the habit in cases of tonsillitis to wash out the throat with a strong solution of nitrate of silver. I believe that if this is done in the commencement it may abort the attack; but if not done at the very beginning it will do harm. If the symptoms are not very active, it is better not to have recourse to this method, but to use milder remedies.

As this patient needed a purgative, she was given a dose of blue mass, followed by a saline. She was then placed upon the tincture of the chloride of iron, which acts both locally and constitutionally. Great benefits will sometimes be obtained from gargles. The parts will be kept clean and free from the viscid, tough mucus which frequently causes distressing symptoms. Chlorate of potassa with myrrh, and muriatic acid will be found an efficient gargle after the acute period of the disease

has passed. If the disease becomes chronic, and the glands show no disposition to undergo diminution, tincture of iron, tincture of iodine, or solutions of nitrate of silver may be applied. After this disease has occurred once, it is apt to leave behind it a tendency to repetition. You will often meet patients who have an attack of tonsillitis every year, or after every exposure to cold.

SIMPLE ACUTE PLEURISY.

This patient has been in the house only two days, and I have seen her but once. The symptoms and signs of the disease under which she is suffering are very well marked, and therefore the case is a good one to bring before you.

The following is the history: "R. D., æt. 20; single; native of Ireland; was admitted on January 9, 1882. Her family history is good. She has always been healthy. Menstruation is regular. There is no history of syphilis. Five days ago, without any unusual exposure, she had a severe pain in the left chest, followed by a slight chill and fever. She continued to work until the next day, when she became so weak and short of breath that she had to go to bed. On admission, there was fever, frequent respiration, and pain in the left side. The left side was dull when percussed, the vocal fremitus and respiratory movement diminished. The respiratory sound was diminished over the left base, and the vocal resonance was slightly ægophonic in character. In the erect position the chest is hyper-resonant beneath the clavicle on the left side. The tongue is coated and moist. Examination of the urine gives negative results."

Those of you who have seen other cases of this kind have probably already come to the conclusion that this is a case of pleurisy with effusion. The disease began with severe pain in the left side, followed by some difficulty in respiration. This pain at once draws our attention to the pleural membrane. If we have pain and fever coming on suddenly, especially after exposure, we may generally conclude that there is pleurisy; but these symptoms may depend on other causes. Pain alone is often caused by rheumatism or neuralgia of the chest-walls; but neither of these affections is usually accompanied by much fever. On admission, her temperature was 102°; this morning and last evening,

102.5°. She has a pulse of 87 in the minute. The respirations number 24. You observe that, while the respirations are somewhat increased, the alteration of the pulse-respiration ratio is not very great. You recollect that in a previous lecture I told you that in pneumonia the alteration of the pulse-respiration ratio is very marked. We have, then, pain, fever, and a slight increase in the respirations, but without any marked disturbance of the pulse-respiration ratio.

The tongue is furred, but it is moist, and the coating is white. When I saw this patient in the reception-room, her appearance seemed to me to indicate that she was suffering from fever. She had the typhoid expression, which was probably because she was tired, and her tongue was tremulous when protruded. These symptoms have disappeared. Pleurisy may, however, sometimes complicate typhoid fever: therefore do not be satisfied with the diagnosis of pleurisy if there are symptoms indicating the existence of typhoid fever.

In the first place, I shall examine the patient by inspection, to see whether or not there is a difference in the amount of movement on the two sides. I do not perceive any by the eye. Placing my hands on the chest, I think there is more movement on the right side than on the left, but it is not so marked as you will often find it. The amount of effusion is not sufficient to cause much change in the respiration, but it is large enough to give rise to an alteration in the percussion-note. In striking the back of the chest with the palm of my hand, you notice that there is dulness on the left side and resonance on the right. Observe, however, that the dulness does not extend very high up, and that above the spine of the left scapula the chest is somewhat hyper-resonant. On auscultation, I find at the base of the left chest that the respiration-murmur is very indistinct, and has a slightly blowing character. In other words, the sound is diminished because we have the lung separated from the chest-wall by the intervention of liquid, which by compressing the lung gives rise to this blowing or bronchial respiration. When she speaks, I feel no fremitus at the base of the left lung. It is also very indistinct on the right side. This is owing to the fact that the woman has a voice not easily transmitted in this way. The vocal resonance on the

left side is rather ægophonic in character, —i.e., it resembles the bleating of a goat.

At the upper part of the left chest the signs obtained by auscultation are different. The respiration is less blowing, and we have added a slight creaking sound, due to the surfaces of the roughened pleural membrane coming together. At the apex the sounds are nearly normal, slightly more blowing than in health, and supplemental in character.

I shall be able to show you, I think, a difference in the percussion-note in the left infra-clavicular region when the patient lies down. You perceive that there is more resonance in the recumbent position. This is due to the gravitation of the liquid to the posterior part of the chest, which brings the lungs in contact with the anterior wall of the chest. The sound is more tympanitic on the left than on the right side. This is a constant observation in pleurisy when the effusion does not fill the whole chest, and where some portion of the lung is capable of containing air.

We have now made out very clearly the presence of pleurisy with effusion, and it remains to prescribe. When admitted, the patient was suffering from high fever. The temperature was 102°, and it has since gone up to 102.5°. The resident physician therefore placed her on large doses of quinine (eight to ten grains in the course of the day). After this has been continued for a few days, I think that it will be well, especially if the temperature has gone down, to place the patient on Basham's mixture, which is a preparation of iron having diuretic properties. At the present time she is taking, in addition to the quinine, digitalis and a small amount of opium. The effusion has become a little greater, and the temperature continues high: the antipyretic treatment is therefore still proper.

In regard to the prognosis in such a case as this, it is perfectly favorable. Under appropriate treatment such cases always do well. In this patient there is no previous disease to embarrass the prognosis; but if, as in the next case, we have an old phthisis to contend with, the prognosis is much more unfavorable.

PLEURISY COMPLICATING PHTHISIS.

This is a case of greater severity, and is also complicated in the way of which I have spoken. The patient has been in the

house six weeks. You will see from these temperature-sheets that she has been the subject of high temperature at all times: very rarely has the temperature gone down to normal, and only on a few occasions below normal. The evening temperature is almost always higher than that of the morning. There are very few exceptions to this general rule. We have, therefore, some hectic symptoms, superadded to those present when you last saw her. This patient had a much larger effusion than the one who has just gone out. You notice that there is marked difference in the percussion-note on the two sides. On the left side it is very dull. Still, there is a little resonance where before there was absolutely none. I find also that the fremitus is more distinct than it was before. The friction-sound, which when you last saw her was heard only at the upper part of the chest, is now heard farther towards the base. I hear it distinctly down as far as the lower angle of the scapula. The voice is somewhat ægophonic in character: it is also a little hoarse, as she is the subject of a slight degree of laryngitis. The vocal fremitus is more marked than in the other case, simply because the voice is better calculated to produce it. In this patient also you notice that under the left clavicle the sound developed by percussion is hyper-resonant.

At a previous lecture I told you that pleurisy with effusion was not the only lesion present in this case. I said that there were certain signs which indicated graver lesions; that at the right apex anteriorly and posteriorly there were heard dry, crackling râles. These are signs of commencing softening. On the left side there are signs of a similar character. If we had no pleurisy we should attribute them also to softening, but, as it is, we are in a little doubt whether they are friction-sounds or due to softening. At the right apex I have no doubt that there is softening.

In this case the prognosis is not nearly so favorable as in the previous one. We have a maintenance of the high temperature and all the other symptoms, indicating grave constitutional disturbance, with decrease in the amount of effusion. The percussion is less dull, resonance is more distinct, and the friction-sounds are heard lower down. These indicate that the effusion is undergoing absorption.

But some of you may ask me, "Is it not more probable that the hectic symptoms are due to the character of the effusion than to the disease of the lungs?" You are probably well aware that as long as the fluid is serous there are generally no serious constitutional symptoms, but that if the effusion becomes purulent, symptoms of hectic fever are developed. I do not think that in this case the hectic symptoms are due to purulent effusion. In the first place, we have positive signs of disease of the lungs; in the second place, we should not be likely to have absorption of the liquid if the effusion had become purulent. The correctness of this view is also indicated by the history. She had been wasting and losing flesh before she was taken sick with the pleurisy. Moreover, the laryngeal symptoms point in the same direction.

We have in this case, without doubt, pleurisy with effusion supervening on disease of the lung. Nothing is more likely to give rise to pleurisy. There is scarcely a case of phthisis which runs its course without being complicated with it. You can readily understand why this is so. There is more or less inflammation of the lung, which may extend to the surface, and thus cause inflammation of the pleura; and pleurisy with effusion is not infrequent. It has been maintained by some writers that a certain amount of effusion retards the development of tubercles.

This patient, of course, requires a different treatment from that employed in the previous case. When we had a large amount of effusion, I gave her digitalis and the mixture for which I have given you the prescription:

R Tinct. ferri chlorid.,
Acid. acet. dil., aa, f3iss;
Curaçoe, f3ss;
Liq. ammoniæ acetat., q. s. ut ft. f3vi.
M S.—F3ss every three hours.

It is now necessary to pay more regard to the constitutional disease under which she is laboring. It is therefore proper, notwithstanding the fever, to place her upon cod-liver oil, tonics, and remedies of this class. We have here a wasting disease which is better met by cod-liver oil than by any other remedy. We also have great anæmia. It is, perhaps, not as great as when you last saw her. We may, therefore, give with advantage a certain amount of iron. The anæmia is indicated not

only by the appearance of the patient, but also by the presence of an anæmic murmur which is heard at the base of the heart. A systolic murmur heard at the base of the heart is an almost positive indication of anæmia.

[The patient was now removed.]

I did not wish to say much in regard to the prognosis in the presence of the patient. It is, of course, very unfavorable. The patient is losing strength, still exhibits high fever, and there is every reason to believe that the disease of the lung will undergo rapid development. There has certainly been enough time during the six weeks that she has been in the hospital to have effected some improvement, if any were to be effected.

This case affords an example of the advantage of delaying the operation of tapping the chest. When she was admitted, the chest was full of liquid, and the propriety of removing it by the operation of paracentesis was duly considered; but, as there was no serious embarrassment of the respiration, I decided to place her on the remedies I have mentioned. Under this treatment the effusion has diminished at least one-half.

TRANSLATIONS.

THE TREATMENT OF DIPHTHERIA BY THE CONTINUOUS SPRAY.—Dr. Jacobasch reports from the Kinder-Klinik der Charité some interesting results of the use of medicated vapor in the local treatment of diphtheria during a recent epidemic (*Berl. Klin. Woch.*, May 29). He does not employ the ordinary atomizers, but a spray-producer with a capacity of about three litres of water, which is heated by a gas-jet. A special room was set apart for the inhalation, and when the apparatus was put in action it filled the room with an impenetrable mist in a very brief time; this atmosphere was breathed on the average for about six days, and apparently with good result. A one-per-cent. solution of alum was generally used in the atomizer. Altogether, thirty-one children, three suffering with croup, twelve with idiopathic and sixteen with scarlatinal diphtheritis, were treated in this series of cases, of whom seventeen died; but it is to be observed in explanation of the mortality that it in reality is small, on account of the malig-

nant character of the epidemic and the bad condition of the cases sent to the hospital. Thirty-three other cases, admitted during the same period, were treated in the usual method without the spray: of these all the cases (four) of croup died, of idiopathic diphtheria six, and of scarlatinal diphtheria eleven, or, in all, twenty-one deaths.

In addition to the special treatment, the internal administration of quinia, or decoction of calisaya, is considered essential, with good food and wine. Cold baths are condemned, but lukewarm baths (20° to 25° R.) are often of great service in reducing restlessness and high temperature. Tracheotomy was successfully performed under the spray, and antiseptics are recommended to dress the wound subsequently, the canula being removed on the fourth day, but reinserted at night for a short time longer. The success of the treatment given by the author is illustrated by the notes of several cases in the paper. No bad effects were noticed.

A CASE OF EPISPADIAS IN THE FEMALE.—

Dr. R. Frommel (*Zeitschrift für Geburt u. Gyn.*, vii. p. 430) describes a case operated on by Schröder, which differs from the previously reported cases in that a small piece of the urethra was preserved; also a small and imperfectly acting sphincter muscle was found, and a posterior urethral wall, or, more correctly speaking, the mucous membrane for it, was met with. From the mons veneris a trough-like furrow ran from the top of the vulvar opening to the opening of the urethra. Labia majora and minora were separated widely above, and the clitoris also was split into two halves. The case was 26 years old, and since her confinement had suffered from a prolapse of the anterior vaginal wall. She was operated upon by anterior colpography, and then the epispadias was cured by freshening the tissue, over a triangular-shaped surface, and bringing the two sides together with thread. The point of the triangle lay on the mons veneris, the two other angles in the two halves of the clitoris. From the base the front part of the urethra was built up, just as in the stitching of the rectum in perineorrhaphy; and by the approximation of the two sides of the triangle the gaping furrow above the urethra was closed. Union occurred by first intention; and the result is described as being a very good one. —*Centralb. für Med. Wissen.*, No. 21.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JULY 1, 1882.

EDITORIAL.

PROTECTION OF THE INSANE, OR OF THE SANE?

IF ever fate should require us to define the nineteenth century in four words, we should note it as *The Age of Societies*. From Czar-destroying Muscovite to the pious American, the rage for union is triumphant; from red-handed communism to Bible-distribution, every possible wish, thought, or hope of the human race seems to have its association. Therefore are we not surprised at the "Proceedings of the National Association for the Protection of the Insane," which has recently been put upon our book-table. Reporters, disguised, forcing their way into insane hospitals in order to make a sensation and earn their penny a line, lawyers overbrimming in court with philanthropic eloquence concerning the sufferings of some client not too insane or too impecunious to recognize the golden springs that move legal emotion to its centre, learned judges on their benches, newspaper editors in search of a sensation, and doctors eager for notoriety and fees, have made such a din that a quiet voice asking for protection of the sane is not to be heard; and, as there is no taint of consulting visits or legal processes upon the breezes that blow from such quarters, we suppose it will not be possible to have a flourishing society to protect the sane against the insane; but assuredly the sane suffer more from the insane than do the insane from the sane.

Sitting in court the other day, we saw an old man with face scarred and furrowed as a tree torn and blasted with lightning; one eye gone, health ruined, a victim of the insane,—of the vitriol-man. Picking

up the newspaper this morning, the first paragraph gave account of the murder of a family by their crazed mother. Going into a patient's house, the story was told us of the whole family life ruined by the doings of a member really insane, but not yet quite insane enough for the law to step in,—of a daily martyrdom by worry beyond endurance and constant terror of disgrace.

Is there any of our readers who has not seen, time and again, instances like these? Are not the papers and the courts full of them? The nearest friends of the vitriol-thrower had been warned by physicians that the father was insane. After the throwing, the law stepped in; but that did not help the ruined victim. Legislators seem to have thought only of preserving the liberty of the insane, never the lives and hopes of the sane.

We have not written these words in any spirit of opposition to this National Association, but to call attention to the fact that the insane at present probably inflict more injury upon the sane than the sane do upon them, and that such an association should use any influence it may have to secure laws which should benefit both sane and insane. Assuredly, when a person is really insane and in law not responsible, the law should hold some one responsible that this person is so guarded and watched that the community shall not suffer.

The name of the present association is a most unfortunate one: it does what probably it was meant to do,—minister to the public notion that the insane are an oppressed class, ill treated in asylums, and often preyed upon by designing friends who find readily tools in the profession for nefarious work; whereas the truth is that physicians in charge of insane asylums, and physicians who give certificates, almost without exception are both able and honest men; and it is little less than an outrage that any physicians should try to climb into power or wealth over the shoulders of these men by the cruel hooks of a public prejudice.

We think almost every one not connected with the National Association of Insane Hospital Superintendents will agree with the opinion that that body has been too exclusive, too much set apart by its own action from the rest of the profession, and, like all crystallized bodies, even though pure, too fixed and unchangeable; but this new body is not one whit better than, if it be as good as, the older association. The hospital superintendent subserves his own interest in defending the hospital system, and the specialist outside, braying against the system, subserves his interest just as much. The superintendent has the cake, and, like enough, wishes to keep it, but the outside boy wants a share of the cake. Weekly well-paid visits, consulting fees, *et id hoc omne genus*, have no terrors for him. Let us, however, look at the matter differently, and believe that both sets of men are acting from honest conviction. Out of the discussion probably the interest of the community will be served, but, meanwhile, it behooves the combatants to say naught about the self-interest of the other side.

The contents of this little volume show that there is need of a stirring up of the subject. Thus, the fact that the average cost of building per patient in our insane hospitals is \$1253, and of yearly maintenance, exclusive of interest, \$260.65, taken in conjunction with the universal insufficiency of accommodation, shows clearly the necessity of finding some way of substituting or supplementing our present palatial system; and the State that first founds a Gheel colony will make a most important experiment.

We trust good may come from the present agitation; but the good would have come more easily if the younger body had not taken such an absurdly antagonistic position, and had adopted some such name as—An Association for Promoting the Proper Legal Enactments concerning the Insane.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

THE Fourth Annual Congress of the American Laryngological Association, one of the most active of our special organizations, was held in Boston from June 12 to 14 inclusive. The programme of exercises comprised a number of essays by some of the leading laryngologists of the country. Of this city, Dr. Harrison Allen contributed an important paper on "Pharyngeal Irritation," and Dr. Carl Seiler introduced the discussion "On the Nature and Forms of Laryngeal Ulcer, specially the so-called Catarrhal Ulcer." New York was well represented by Dr. Louis Elsberg, who read an instructive communication "On Paralysis of the Laryngeal Muscles;" Dr. D. Bryson Delavan presented one "On the Question of Hypertrophy of the Osseous Structure of the Turbinate Bones, Practically Considered;" and Dr. William C. Jarvis described a new operation for the removal of the deviated septum in nasal stenosis. Perhaps one of the best essays was that by Dr. Beverley Robinson "On Impaired Cardiac Power as an Efficient Cause of Congestive Affections of the Throat;" while the most interesting case reported was one of ossification of the right arytenoid cartilage, with separation and expulsion, following thyrotomy for the removal of a papilloma, by Clinton Wagner, M.D., the specimen from which was exhibited. Dr. Frank H. Bosworth opened the discussion on "Ozæna: its Pathology and Treatment;" and Dr. J. O. Roe, of Rochester, inaugurated that upon "The Utility or Non-Utility of Local Applications in Chronic Catarrhal Laryngitis." The West was also well represented by a clinical paper by William H. Daly, M.D., of Pittsburg, who reported several instances of "Catarrh involving the Antrum of Highmore, and its Treatment." Dr. William C. Glasgow, of St. Louis, sent a paper on Laryngeal Asthma, which was read by Dr. Seiler; Dr. E. Fletcher In-

gals, of Chicago, presented a good paper in which he considered "Deflection of the Septum Narium from a Clinical Stand-Point;" and Dr. E. Shurley, of Detroit, reported several cases of "Lupoid Ulceration of the Nasal Septum," in which amelioration followed the adoption of an antisyphilitic plan of treatment. The courtesy of the Committee of Arrangements was not only manifest in their hospitality to their guests, but also was evident in the programme, the Bostonians refraining from occupying the time of the meeting, except by a brief address of welcome from Dr. S. W. Langmaid, who also, by request, opened the discussion "On the Singing Voice: its Physiology, Pathology, and Treatment;" and by the annual address by the President, Dr. Frederick I. Knight, who also exhibited a very instructive case of aphonia spastica before the Association. Dr. French, of Brooklyn, showed some photographs of the living human larynx, and described his method of obtaining them; and some original instruments were displayed and explained by Drs. Rumbold, De Blois, and Shurley. Two daily sessions were held, except on the third day: they were well attended, and the discussions were spirited and instructive.

The entertainments, although not so pretentious as to take precedence of the scientific work of the Congress, to which a tendency unfortunately exists in such organizations, appear to have been thoroughly enjoyable and satisfactory. The President, Dr. Knight, gave a reception at his house, where the Association met the Faculty of Harvard College and the hospital staffs of the Massachusetts General and City Hospitals; the Association was entertained at luncheon by Drs. Knight and Hooper, and the annual dinner was given at the Parker House June 13. The next day the Association was the guest of the Massachusetts State Medical Society at its annual dinner at

the Music Hall, where nearly eight hundred sat down at table.

Dr. Lefferts, who has served the Association most faithfully for the last four years as Secretary, was elected President for the ensuing year,—a well-deserved honor. The next meeting will be held in New York, on the third Monday of June, 1883.

CORRESPONDENCE.

LONDON LETTER.

CONSIDERABLE disappointment has been experienced by the profession lately that amidst the creation of baronetcies and the lesser title of knight it has had no share. This is only a part of the snubbing to which the medical profession should now be quite accustomed in this country. A knighthood for the retiring President of the Royal College of Physicians! Surely it is quite enough for him, when the two Sheriffs of London were only made knights in consequence of the Queen's visit recently to Epping Forest,—the Lord-Mayor having been made a baronet. Truly, the profession does not look for baronetcies for many of its members; for the profits of medicine do not place its followers on a level with successful brewers, biscuit-makers, and owners of wharves along the Thames. Ireland is specially left out in the cold. Some of its leading medical luminaries with "handles" to their names have recently gone over to the majority, and there are many men in the profession in Dublin who might be invested with knighthood with advantage. As to the present government, it seems not only disinclined to do honor to the profession, but even disposed to practically lay a fine upon it. Thus, when in the last Budget a small sum was required to make ends meet, it was proposed to increase the tax upon "carriages." No doubt this was a "shot" on the part of the radical elements at their antagonists the landed proprietors, who are universally impoverished by a succession of bad harvests (indeed, ever since the Americans took the weather in hand, as some of the farmers here firmly believe is the case); but, at the same time, it becomes a decided hardship upon the medical profession, many of whom must keep a brougham in order to have a practice. Without the doctor's carriage at the door, a large number of patients would scarcely see the necessity for the visits of its owner. "If I were to put down my carriage, I might as well retire from practice!" said a member of the profession to me the other day; and a very cosey, elegant carriage it was, with a pair of beautiful high-bred

chestnut horses in it,—quite a match for the handsome, gentlemanly doctor himself. So it is in all large towns, and in many smaller ones for that matter: the doctor's carriage is part of his stock in trade. It tells of increasing practice, and so is often started before it is very clear how the horses are going to be fed. Then it vouches for the reputation of the pleasant-looking old gentleman who sticks to practice when there is no particular reason why he should remain in harness, except that he likes it, and his patients like him, and are glad to see him, even if it is possible that the old gentleman's hearing is not quite so good as it once was, and that his examination of the chest is rather a matter of form than anything else,—but an "echo" of what once was a definite sound. Nevertheless, the well-kept carriage is a guarantee that their old friend is still hale and in harness. But this government, among its tentative tendencies, is putting a fine on the medical profession, which, however, is rather a grievance than a solid injury in many cases. If the profession were welded together into an homogeneous whole, so as to vote solidly at election-time, then the political wire-pullers would court it, and honors would fall upon it "thick as leaves in Vallombrosa." Of course the Irish question takes up a great deal of the time and consumes all the leisure of the Cabinet; but no one can be a better judge of the value of medical aid than Mr. Gladstone, who so frequently has Dr. Andrew Clark in attendance upon him. And no fitter man to be a baronet than this said Dr. Andrew Clark, who is a hard-headed, shrewd Aberdonian, canny, wide awake, a good speaker, clear, rational, solid in his arguments, put in well-chosen language, if there be no attempt made at eloquence. Long in most lucrative practice,—such practice as few men could undergo without utterly breaking down,—brought professionally in contact with our social leaders, from princes of the blood royal and the Prime Minister downward, Dr. Andrew Clark is quite as worthy—and a precious sight more so, in many people's opinion—of the honor of a baronetcy as some political nobody who has fought some constituency unsuccessfully twice "for his party" and so becomes a notable. Or the medical gentleman who watched over the last moments of the late Lord Beaconsfield,—namely, Dr. Richard Quain, F.R.S.; not the Quain of "Quain and Sharply," but the well-known fashionable physician, a keen-witted Irishman, with some of the brogue and the drollery of an Irishman about him, yet unsubdued by the sobering cares and anxieties of a large—indeed, very extensive—practice for years. Perhaps some of us did think it would have been as well if the dying minister had been treated as a less distinguished individual would have been,—viz., left to his own devices, and, if he preferred homœopathy, allowed to take the treatment

of his choice. Nevertheless, Dr. Quain is an able and enthusiastic physician, full of therapeutics, and a practical rebuke to the scepticism which prevails in many quarters. Indeed, he is just bringing out a dictionary of medicine, contributed to by many of the best-known members of the profession, but all strictly supervised by himself; and it is not a common thing to find a man who has attained Dr. Quain's position, a man whose means are ample enough for any honor in the way of a title,—that is, such a title as is open to medicine,—that will bring such an experience as his to the aid of the profession by undertaking literary work, when a well-earned leisure would seem more likely to be the object of his desires: not, however, that the hale, hearty, genial old doctor shows any sign of failing yet.

Nor do we wish to see any more of our well-known leaders disappear at present. Two more prominent figures have passed away—Dr. Peacock, and Prof. Spence, of Edinburgh, surgeon-in-ordinary to the Queen for Scotland—only within the last few days. Thomas Bevil Peacock was a member of the Society of Friends, commonly known as Quakers, which has furnished so many illustrious members to our profession. In early years Dr. Peacock was an assistant to Dr. John Fothergill, of Darlington, the first temperance doctor. There he learned in general practice the beginning of that knowledge which was to fit him for the future position of a large city consultant as time elaborated it. Early in life he became connected with St. Thomas's Hospital, and ultimately died in it as a consulting physician. He had a paralytic stroke a year or two ago, from which he had to a large extent recovered, though there were evidences of cerebral impairment remaining. Last week he was showing some friends round the hospital, when another seizure took him. He was put to bed in the institution, and in a few hours he expired, without any attempt at rallying. Curiously, the deceased gentleman had often expressed a wish that he might die in St. Thomas's Hospital or another with which he was connected; and his wish was granted. The other hospital is that of The City of London Hospital for Diseases of the Chest (Victoria Park), of which he was the promoter, and in which he ever took the liveliest interest. Dr. Peacock made a great study of the malformations of the heart, and was the authority on the subject. Acute, painstaking, calm, cold even, he was a typical "sense-machine for registering observations," and with the utmost accuracy, too. Unemotional, he had no theories to which he bent his facts; all he sought for was the fact itself. He did not publish many works by comparison with his accumulated material; but everything he has published is of the highest value; and he has carried with him a huge amount of information which I,

for one, sincerely wish he had left on record,—not only in pathological observations, for which he was well known, and received lately the gold medal of the Royal College of Surgery, as a careful, painstaking searcher after information, but also in clinical medicine. Those who have taken notes for him have declared to me their perennial surprise at the justness of his diagnosis, when he would dictate in his stiff, formal tones, “and a murmur is to be heard at the left apex,—of a temporary character.” How he knew it was of a “temporary character” they said they never could tell, and often had questionings; but, sure enough, after a little time it would disappear. Perhaps his material is in such a form that it can be edited by some one: of its value there can exist no doubt. As to his absolute rectitude, those who knew him well can tell best. He did some years ago what I fear few, if any other, in like position would have done: he actually promoted the election of a man as his colleague whose views were diametrically opposed to his own. The old doctor was one of the last survivors, if not absolutely the last, of those who believed that digitalis lowered the action of the heart,—that is, the last of those who may fairly be supposed to have known enough about the subject to entitle them to an opinion on it. How he came to retain such an opinion, taught in his student days, and perhaps since by those who write books in which they repeat the errors of other book-writers, it is difficult to see; but he adhered to it till the last. Yet, when I applied to him in connection with a vacant post at Victoria Park Hospital, he cordially supported me. Indeed, on the publication of my prize essay on digitalis, he wrote me spontaneously a most kindly letter, though a stranger to me, and though he never adopted my conclusions. Good, upright, inflexible, the old doctor lived with few friends and with fewer associates. Utterly just, if not always as amiable as a pastor’s maiden sister, he was thoroughly respected by every one with whom he came in contact. A small man, of preternaturally calm bearing, he was methodical and precise in all things, no matter how minute; and the London body of Friends by his death loses one of its most conspicuous members.

The other, Prof. Spence, was a well-known figure in the Northern metropolis. Long years ago Mr. Spence was Surgeon to, and Lecturer on Surgery in, the Royal Infirmary of Edinburgh, when Mr. Syme was in the height of his reputation. Steady, grave, composed, Mr. Spence was a first-rate surgeon, if not the most brilliant or, rather, showy operator. Before the days of chloroform, when the patient was secured in bonds during an operation, and when time was a very different factor in operating from what it is now, Mr. Spence was well known for the rapidity with which he executed his operations. Long before he was professor in the University, Mr. Spence was largely

called in by practitioners in the neighborhood of Edinburgh, to operate on their less lucrative patients; and it used to be said that they did not always bear him in mind as they might have done when wealthier patients stood in need of the surgeon’s knife. When Prof. Miller died, public opinion carried Mr. Spence into the vacant chair, despite a wonderful lot of influence put on by other candidates. When fortune once smiled upon him, the world became conscious of the merits of the unpretending surgeon, who was a little absent-minded at times. A relative gave him a gorgeous carriage-and-pair, which the professor forgot almost the first day: walking away out of the famous quadrangle of Edinburgh University across to the Infirmary, his mind was concentrated on a case or two he was about to examine, and the carriage slipped out of his recollection altogether. At last its existence flashed upon him, and, with a curt exclamation, he retraced his steps, and took his seat as became a professor of surgery and the owner of a stately vehicle. In the days of his prosperity he was got up—for no one ever dreamed that he bothered his head on the subject—in a manner strongly contrasting with his previous homely garb. His features were cast in a singularly lugubrious mould, so that the adjective used as a prefix to his name was “Dismal,” though he was not mentally of a mournful nature. Every Edinburgh student will read with regret that Prof. Spence has passed away from the field of his labors. His health had been failing for some time past, and two toes were removed lately for gangrene. Pyæmia set in, with the usual result in such cases. Prof. Spence was not a voluminous writer, but, of course, had a work on surgery for his huge class. Recently he came forward as a critic of Prof. Lister’s system of antiseptic surgery, an account of which appeared in one of my letters at the time. He was a proficient as a lithotomist; and when I was a student some twenty years ago, it used to be said that Mr. Spence had dissected the perineum in over one thousand subjects, in order to be intimately familiar with the anatomy of the region, both normally and in all the variations of its complex parts. Indeed, it used to be a student’s joke at that time: “What is Spence’s idea of a future state?” one would ask; the answer being, “Why, of course, the blest cutting the damned for stone.” Such was supposed to be his conception of future happiness, to be eternally engaged on his favorite operation. A medical contemporary, in speaking of Mr. Spence’s illness, and of the tardy recognition of his surgical merits by Her Majesty’s advisers, goes on to say, “Prof. Spence’s reputation is so world wide that we need not refer to it; but we would ask whether, had he been the subject of some Continental sovereign, his undoubted claims to public recognition would have been thus passed over. If a city trades-

man happens to be Lord-Mayor or Sheriff at the time a recreation-ground or a new bridge is opened, a baronetcy or a knighthood is immediately bestowed, notwithstanding there is no pretension to a claim for the honor; but the medical man, whose scientific attainments, discoveries, or operations have obtained for him the just admiration of all peoples, is passed unhonored by the sovereign whose country's fame he has done so much to enhance."

Though not standing on a surgical pinnacle like the late Mr. Syme, Prof. Spence would have been deemed worthy of honor on the Continent; and seeing how much of her time, even in the midst of a troubled session, Her Majesty finds it agreeable to spend away from the neighborhood of town, and in Scotland, it is not to be wondered at if our contemporary thinks the late professor was overlooked in not being knighted when made surgeon-in-ordinary to the Queen for Scotland. Probably Mr. Spence would have been the last man to have cared a jot about a handle to his name: still, there is the profession to be thought about, or, rather, it seems, to be overlooked, except to have a necessary part of its stock in trade taxed extra when the kingdom needs a little more money. Some might, however, say that the profession does not go particularly wisely about its own affairs and its own internal management; and though, of course, those who are largely responsible for the conduction of affairs would resent such imputation, still, in this time and generation, we do not hold that "grace gives dominion" to the extent that once obtained; and there are those who are heretical enough to suspect that some of the respectable mediocrities who have climbed by arts best known to themselves into many positions of responsibility might be profitably exchanged for others whose merits are—well, at least more generally known.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the Society, Philadelphia, February 22, 1882, Dr. Horace Y. Evans, President, in the chair. Dr. Arthur V. Meigs read a paper on "Milk Analysis" (see page 660).

DISCUSSION.

Dr. Ellwood Wilson said he was not prepared to pass any opinion on the chemical points brought out in the paper. As far as regards substitutes for the milk of the mother, he preferred condensed milk.

Dr. A. H. Smith said he had no doubt of the accuracy of Dr. Meigs's process. The

results accorded with practical experience better than others; but, in reference to the identity of the casein in cow's milk and human milk, he could not agree with the lecturer that the difference in the coagulation, both in kind and degree, under the influence of conditions of the stomach or in the presence of certain chemical agents, was explainable by the different degree of dilution of the casein, there being a larger proportion of water to that of casein in the human than in cow's milk. If cow's milk is diluted with water, or any diluent which will not interfere mechanically with the kind or amount of coagulation, it will produce in the infant's stomach the same coagulation, in extent and firmness of clot, as when we use the undiluted milk, while the mother's milk will never give such a coagulum under any circumstances. This fact could only be explained on the supposition of some difference existing in the constitution of the casein. He agreed with Dr. Ellwood Wilson as to the value of condensed milk when the mother's milk is not available. In a considerable proportion of cases children thrive and develop perfectly under its use. In reference to the objection to the amount of sugar, this applied only to the canned article, and not to that which was sold in the larger cities, which is condensed to about one-quarter its bulk, and, with the addition of salt, will keep for several days without the addition of sugar. With this article Dr. Smith had obtained excellent results. No one form of artificial diet, however, would suit all children, and there seemed to be no article of food which some children could not thrive on. He recalled a case in which a child was from necessity taken to Florida at three weeks of age, and, from an impossibility to get any good milk, it was fed for over ten months from that age exclusively on oatmeal gruel made with water, and it remained in good health, robust and vigorous.

Dr. W. T. Taylor said he could corroborate the statement of Dr. Smith in reference to the use of other foods than milk. Some years ago he had attended a woman with two or three children, who could not suckle them, and was obliged to feed them on cow's milk and other aliment, for condensed milk was then unknown. Sick stomach and diarrhoea would soon set in, and they would waste and die. Accordingly, when the next child was born, Dr. Taylor had it fed on oatmeal boiled in water and sweetened, which agreed with it so well that it thrived until it was old enough to take other food.

Dr. J. Forsyth Meigs said that he had never seen a young infant do well on food which did not contain milk or some other animal substance. The few he had seen fed upon oatmeal or arrow-root alone were puny and miserable creatures.

Dr. O'Hara thought if strict dependence were to be placed on the milk analysis, it

should be accompanied by a statement of the constitutional peculiarity of the individual, whether lean or fat, whether taken from a primipara, etc. He had no doubt that the milk of women varies much, and human milk can bear no comparison with that of a cow. Many things alter the milk of a woman that could not affect the cow. Emotion had been known to render a woman's milk poisonous to the offspring, and this could not occur in the case of the cow. If a woman was putting much fat on herself, it could not be expected that she would be giving much of it out in her milk. Can we in any way estimate a typical woman who ought to average a normal quantity and quality of milk?

Dr. Blackwood said that he had seen a number of instances in which children thrived on oatmeal gruel. In his own practice he had one or more such cases each year. In diluting cow's milk he preferred to use whey instead of water. He desired to know Dr. Meigs's opinion in reference to the use of milk from one cow. Mothers often boast that they have a guarantee that the milk furnished is from a single cow; but, in his opinion, this is a disadvantage rather than otherwise. The milk of one cow is more subject to variations than the milk of a herd, and disease in one animal would, of course, affect less seriously the milk of the whole herd than it would the milk of the sick animal itself. Barley-water forms an excellent medium for diluting milk, as it prevents better than any other article the tendency to coagulation in large masses.

Dr. F. P. Henry said that Dr. O'Hara's question as to the type of woman from whom the milk examined by Dr. Meigs had been taken might well be supplemented by a question as to the type of animal from which the cow's milk was procured. Cow's milk may vary, as regards the amount of fat, from five to twenty-five per cent. About a year ago he had made a large number of observations upon milk by means of the hæmacytometer, and had found that a milk containing two million globules per cubic millimetre was of excellent quality. Such a specimen, examined by means of the graduated cylinder, showed from seven to ten per cent. of cream. Dr. Henry had argued, in the paper referred to, that an enumeration of the milk globules was, for all practical purposes, in the case of human milk, the most valuable single method of examination; and he had as yet seen no reason to change his opinion. Dr. Meigs's method requires fifteen cubic centimetres of milk,—an amount often impossible to obtain from a woman's breast,—while for an enumeration by Dr. Henry's method only five cubic millimetres (about one drop) are required. Simon states that changes in diet affect almost exclusively the quantity of milk secreted and the percentage of butter, the percentage of casein and sugar remaining about the same. If this

be so, it follows that an examination for determining the amount of fat will give a correct idea of the quality of the milk. No method can give any idea of the quantity of milk secreted. The estimation of the amount of cream by means of the graduated glass cylinder is entirely fallacious. This is readily shown by placing the same amounts of cow's and human milk in vials or tubes of equal calibre. Although the layers of cream that form may be identical, the milk below will be entirely different in appearance,—in the human specimen being almost transparent, while in that of the cow it is quite opaque. This is due to the fact that the globules of human milk are the larger, and an inference that the two specimens contained equal amounts of fat, founded upon the formation of layers of cream of equal depth, would be altogether erroneous. Probably a chemical method such as that of Dr. Meigs would determine the fat more accurately than the hæmacytometer; but it must be admitted that, so far as concerns human milk, it is in most cases impracticable.

Dr. Meigs, in closing the discussion, said that while he had made many examinations of milk, he had at present only five finished analyses of human milk to offer; and even these he did not offer as giving a final average: more must be made. The point he desired to make specially in the paper was that human milk did not contain anything like four per cent. of casein, and, further, to point out the conflicting statements as to the composition of human milk. All milk was subject to variation. If milk is taken from the mother's breast after the child has not nursed for some time, the fat will be small in amount; but after nursing, the dregs of the milk being taken will be found rich in fat. The variation may be as great as from one to nine per cent. He had not said that the casein of cow's milk was the same as that of human milk: on the contrary, he thought it not unlikely that they were different; but he did not believe that the same large, hard coagula would result from diluted cow's milk as from the undiluted, especially when lime-water was used in diluting. As to the use of farinaceous foods, he agreed with Dr. Smith that they are on occasions very useful: he did not, however, advise them; but a definite rule for the guidance of beginners, whether mothers or physicians, was still lacking. He preferred to use a mixture of milk, cream, sugar, and lime-water; but, when travelling, condensed milk may be of great value. Mixed milk was to be preferred to that from one cow. Whey, as advised by Dr. Blackwood, will probably contain some fat. As to the comparison between the chemical and the microscopical method, the latter needs further investigation to prove its entire reliability. In the chemical method the only doubtful points are the amounts of casein and sugar.

A CONVERSATIONAL meeting of the Society was held at the hall of the Society, Philadelphia, March 8, 1882, Dr. Horace Y. Evans, President, in the chair. Dr. L. S. Pilcher, of Brooklyn, read a paper on "The Ligation of Large Venous Trunks" (see page 664).

DISCUSSION ON DR. PILCHER'S PAPER.

Prof. Henry H. Smith said he had listened to the paper with interest, although he was not aware that any doubt existed among surgeons of the present day as to the advisability of ligating veins. His experience in the matter had been entirely favorable to the practice. The real difficulty to be considered was the condition of the vein, and not the mere fact of ligation. A diseased vein, *e.g.*, varicose, would be apt to give trouble under conditions in which a healthy vein would do well. As regards the ligation of large veins, he did not recall the general statistics, but remembered one case in which, during removal of a large lymphatic gland on the sheath of the vessels of the neck, the jugular vein was cut; in order to control the hemorrhage both artery and vein were included in the same ligature, and the case did well. In another instance the varicose veins of the leg were tied, and death ensued in five days. In conclusion, Dr. Smith said he had never seen so thorough an exposition of the subject as that given by the lecturer this evening.

Dr. S. W. Gross said that since the date of the publication of his papers on ligation of veins, surgeons had generally adopted the practice. Billroth states that he has lost not a few cases in consequence of not ligating the wounded axillary vein in the removal of carcinomatous axillary glands, but that since he has found that veins may be tied with impunity his results are improving. In the original papers Dr. Gross had stated that exposure of the vein was more fatal than wounding it. Dr. Pilcher had proposed to excise the denuded portion to prevent the occurrence of suppurative phlebitis, and a German surgeon, whose name he could not recall, had removed a portion of a thrombosed axillary vein with a view to the prevention of pyæmia. Dr. Gross could not endorse either of these views, since he believed that neither exposure nor ligation of a vein was dangerous when the patient was in good condition. He had not modified his opinion in regard to the ligature not being a factor in the production of diffused phlebitis. Dr. Gross desired to utter a note of warning in regard to lateral deligation, lest the successful cases referred to by Dr. Allis and Prof. Parkes should induce some of the surgeons present to imitate their practice. In the papers already alluded to he had given the details of forty-one cases of ligation of the internal jugular vein. He was now cognizant of sixty cases, inclusive of those reported this evening. Of this number forty-seven were examples of ordinary deliga-

tion, of which one terminated in death from thrombosis, while thirteen were instances of the application of a lateral ligature, of which four proved fatal from secondary hemorrhage. The freedom from hemorrhage after the ordinary procedure, and the occurrence of fatal bleeding in more than one-third of all cases after the lateral ligature, was a sufficient ground for its exclusion from practice. He did not consider that lateral forcipressure had been sufficiently tried to entitle it to the praise awarded it by Dr. Pilcher. From his own experiments he had found that the ordinary ligature partially divides the muscular coat of the vein, and there was sufficient evidence to show that in the case of arteries the catgut ligature acted on the coats of the vessels in precisely the same manner as the ordinary thread. The clot formed in the vein merely acted as a porous substance into which the proliferating endothelium of the intima grew, and it is through the proliferation of these endothelial cells that the vessel is permanently occluded, as has been experimentally demonstrated by Dr. Shakespeare. In conclusion, he stated that veins may be ligated with as much confidence as arteries.

Dr. Parkes, of Chicago, did not agree with the last speaker as to the relative merits of complete and lateral ligation. He had seen lateral ligation used in three cases of wounds of the internal jugular vein, followed by recovery in each case, while one case of complete ligation died in thirty-six hours from thrombus. Especially where the wound is small is complete ligation inadvisable. In the cases of lateral ligation he had seen, the constriction had amounted in one instance to one-third the calibre of the vessel, and in one other to nearly one-half. No untoward symptoms followed in either case.

Dr. Keen said that in a case of denudation of a vein he would not think excision required except under special conditions. He could not agree with Dr. H. H. Smith in reference to the inadvisability of operating on diseased veins. In varicose conditions he had several times exposed and ligated the veins at points an inch or more apart, and excised the intervening portion by the antiseptic method, and with excellent results. In his opinion the ligation of varicose veins by the catgut ligature was the best treatment. He recalled the case of a night policeman whom he had cured by this method, and who was able to resume his occupation. He also used silk ligatures, whether to artery or vein, as used in abdominal surgery, not by waxing, but by dipping in carbolic acid water and cutting off short. In this manner he had first ligated the brachial artery and three muscular arteries in one operation at St. Mary's Hospital three years ago; as the case recovered, he never knew what became of the ligatures. They never gave any sign of their presence.

Dr. Packard thought that in certain positions it was highly necessary to ligate veins. For instance, in amputations at, or close to, the knee, the vein is apt to be held open by the fibrous tissues around it, and troublesome hemorrhage may occur, or leakage ensue: here ligation is eminently proper. Ligation of veins had been attended by no bad results in his experience, whether in cases under his own care or in the hands of other surgeons. In an operation of clearing out axillary glands, the vein having been inadvertently wounded, he had used lateral ligation, reducing the vein to about one-third of its normal calibre: good results were obtained, and no œdema followed. If in removing a large tumor a vein must be long exposed, or if it should be roughly handled (although he thought there should be no rough handling), he would prefer to apply a carbolized catgut ligature at each end of the exposed part, but did not think excision needed.

Dr. Hunter said he always ligated veins when they were cut and persisted in bleeding. Dr. Agnew had ligated the internal jugular at its point of emergency from the skull. The ligature came away at the end of the second week without unfavorable symptoms. In intra-venous transfusion, Dr. Hunter always opened either the median cephalic or median basilic vein. He recalled a case of typhoid fever, in which intra-venous injection of milk had been practised, and he closed the integument over the median basilic vein with silver wire, and placed on a compress. The vein healed well in the course of three or four days, because he afterwards noticed the blood going through it. This case showed that even in debilitated conditions we might expect good union in the vein. He had never seen secondary hemorrhage from ligated veins. He preferred carbolated catgut. Chromic acid, he thought, changed the ligature, and rendered it less easily absorbed. Carbolated catgut always gives good results.

Dr. Blackwood said he had seen during the war many cases of gunshot wounds of the vessels of the neck. Most of these died of the primary hemorrhage, but at Petersburg he had occasion to see a number of cases of wounds of the external jugular soon enough to apply treatment. Whenever lateral ligation had been used, and he had been able to follow up the history of the cases, they had ended fatally from secondary hemorrhage, and finally he had abandoned lateral ligation altogether, and ligated at two points, and cut between them. He agreed with Dr. H. H. Smith that diseased veins do not bear ligation like healthy ones. He had, however, no fear in ligating veins.

Dr. Nancrede said that in removing a large lymphoma of the neck, in an operation lasting two hours, he had kept exposed for a long time the internal jugular vein. Prolonged suppuration followed the operation, and the

vein was bathed in pus, but it suffered no injury. He thought that the fear felt by some surgeons that ligation of the internal jugular would interfere with the return of venous blood was founded on a wrong theory of the cerebral circulation, and that Hilton had shown long ago that the ophthalmic vein, which has no valves, and ramifies in loose cellular tissue, in addition to some smaller veins, suffices for the escape of venous blood in such efforts as straining at stool, when but little blood can be returned by the jugulars. Dr. Nancrede said he never hesitated to tie veins in operations, and would not think of leaving them untied in such operations as amputation at the hip-joint. In two such operations, amputation at the hip-joint performed by him during the past year, the hemorrhage was free, and would certainly have conduced to a rapidly fatal termination unless the femoral vein had been tied.

Dr. Allis recalled a case bearing upon the questions under discussion,—viz., the exposure of the jugular vein and its lateral ligation. In the removal of an adenoma from beneath the sterno-cleido-mastoid muscle, the sheath of the large vessels was also removed, while at the same time the vein, which dilated to the size of a man's thumb, received a wound. The hemorrhage was arrested by the application of a lateral ligature, and the recovery was rapid and permanent.

In regard to the danger of the ligature slipping and primary hemorrhage following, Dr. Allis remarked that it would depend mainly upon the manner in which it was tied. When tissues are dense, the ligature may slip off, but when soft they permit it to embed itself, and reduce the danger of primary hemorrhage to a minimum.

Dr. John B. Roberts inquired as to the extent of danger from the introduction of air into veins, which is said to be a dangerous complication of wounds of the neck. The ligation of the cerebral sinuses was also a matter upon which information should be given. He had seen some years ago a case of injury to the skull, in which one of the difficulties that the attending surgeon experienced was hemorrhage from a wound in the longitudinal sinus. He saw no reason why venous sinuses of the brain could not be ligated with as much success as ordinary veins.

Dr. Shakespeare said he had no special experience in reference to ligated veins. His experiments, to which allusion has been made, were almost entirely upon arteries, though occasionally a vein had been included in the same ligature and the pathology of venous ligation had been shown. He saw with pleasure that Dr. Pilcher, in drawing conclusions from the experiment on the goat, had said that the union was by first intention, and was effected by adhesion of the surfaces of the inner tunic. Dr. Pilcher had said that inflammation started from the outer tunic and pro-

gressed inward, but in the case submitted it is stated that no signs of inflammation existed on the outer tissue, and the healing process was limited to the inner coat. Dr. Shakespeare's results in reference to arteries here coincided with this experiment on a vein, and showed that the elements of the inner coat were the active agents in healing, and that the clot was unnecessary and sometimes absent. He thought he had broad ground for opposing the view that white corpuscles are the active agents: when the substitution of the clot by connective tissue takes place it is due to the agency of the tunica intima. A series of granulations originated and resulted in absorption of the blood-clot. Where no clot existed, healing was by first intention, and was complete in three or four days, as in Dr. Pilcher's case. In such cases the inflammatory process was limited to the inner tunic. On one point he differed from the author of the paper. He (Dr. Shakespeare) thought that the permanent obstruction of vessels by approximation and agglutination of walls was a process of inflammation. Healing by the first intention was but an abridged form of healing by second intention, and all practical pathologists agree that it is by reparatory inflammation. As far as he could gather from the drawings shown, the magnifying power used had been too low to show either the process of inflammation or the elements of the tunic concerned.

Prof. Gross said he had long been in the habit of ligating veins, and early in his professional life was impressed with the fact that the fear of such ligations was unfounded. To place the matter in a more definite light, he had suggested to Dr. S. W. Gross the statistical investigation of the subject, and the result was the paper to which allusion had been made by the lecturer. He was opposed to lateral ligation, and thought it always best to tie the vein in its continuity. No danger of phlebitis and suppuration existed, but varicose veins he would not ligate. He was also opposed to the excision of the exposed vein, unless it could not be avoided.

Dr. Pilcher said that the discussion had shown that some of the points he had advanced had been misunderstood: first, in reference to the results of denudation, veins exhibited no especial vulnerability, and the diseased conditions they take on are generally traumatic. It was easy to imagine a case in which considerable extent of a large vein was denuded and injured so that inflammation would be unavoidable, and it might be a question whether it would not be better to apply ligatures, and excise. Dr. Packard had suggested to tie the vein at each end of the exposed portion, but not excise; but Dr. Pilcher said he objected to this because the inflammation in the neighborhood of the vein would be more likely to be carried to the distal portions, and hence develop danger, while excision

itself added no danger. Secondly, where the wall of a vein had not been wounded, but it would have to lie exposed at the bottom of a suppurating cavity, and consequently in danger of progressive thrombosis and suppurative phlebitis, would it not be better to tie and remove the exposed portion at once? Cases have been reported where this has been done, and with a happy result, after trouble had developed; but he thought the better treatment was to anticipate such dangers, and excise at the time of the operation. He did not think that mere exposure or denudation is sufficient to justify ligation.

In reference to lateral ligation, two sources of danger were to be noted,—first, secondary hemorrhage, either at the timely or untimely fall of the ligature, and, second, purulent infiltration of vein-wall, followed by thrombus and its results. The latter conditions may be produced by lateral ligation only when irritative measures are used. Silk ligatures always irritate, and hence give rise to thrombus and embolism. When non-irritative means were used, thrombus and secondary hemorrhage need not be feared: hence the application of the ligature to the side-wall of the vein, as Dr. Allis had suggested, would save the venous trunk and answer well. The forceps were less irritating than the ligature. The process of healing, when forcipressure is used, does not involve ulceration, and is shorter: hence the wounds can be closed early. As to the manner in which the antiseptic animal ligature acts, the statements were as yet preliminary, and the data not sufficient to enable a final and reliable opinion to be arrived at. Dr. Gross's statement that the middle coat is broken is not in accordance with the latest investigations, which show that no tunics are ruptured in the tightest ligation.

Whether or not inflammation is a part of the process of healing may depend upon the meaning we attach to the word inflammation. Dr. Pilcher said he did not comprehend exactly in what sense Dr. Shakespeare used the term. For his own part, he had in his paper compared the healing process to certain obliterations seen in the umbilical vein, the hypogastric arteries, the ductus arteriosus, and in the interauricular septum of the heart of a young infant. These changes were not inflammatory, but were instances of union by contact.

The examinations of the sections of the ligated jugular of the goat were made by Dr. Joseph H. Hunt, of Brooklyn, under both high and low powers, upon whose judgment as to the absence of signs of inflammation the speaker relied.

In reference to the statistics of lateral ligation of large veins, he recalled two cases in the practice of others. In one the internal jugular, in the other the external iliac, was tied. Death occurred in a few days, in each case from suppurative phlebitis. The man-

ner of application of the ligature was unknown to him. The constitution of the person has much to do with the results of venous ligation. The unfavorable results are from the condition of the system, not from the operation.

As regards the propriety of ligating varicose veins, the statements made by different speakers in the course of the discussion might create doubt. It would be remembered that largely to the frequency of disastrous results following the ligation of such veins—a practice much in vogue in the early part of the present century—was due the odium into which venous ligation had fallen. But all these disasters had occurred after the use of irritating ligatures.

PHILADELPHIA ACADEMY OF SURGERY.

MEETING OF MAY 1, 1882.

The PRESIDENT, DR. S. D. GROSS, in the chair.

DR. MORTON exhibited an entire breech-pin of a rifle, and the screw, which had been removed from the face of a lad aged 20, by Dr. John Rhea Barton, in 1832. The gun burst while being directed upward and held close to the right side of the face. The lad was thrown down, and, with the exception of a small wound below the right eye and to the inner side of the infraorbital foramen, there was no other injury. The only part of the gun which was missing was the breech-pin and screw. A probe detected the screw only, and far beneath the surface. Dr. Barton, believing that the entire breech-pin was embedded, from the fact that the screw was detected, increased the size of the wound, and with great difficulty extracted the mass, which consisted of the breech-pin and screw entire. It measures two and one-half inches in length and an inch in breadth; the screw is two inches long; the entire weight, one and one-half ounces. The patient made a rapid recovery, and at this time—fifty years since the accident—shows scarcely any scar or other change from the fracture and loss of part of the maxillary bone.

Dr. Nancrede related a case of a young man under his care at the Protestant Episcopal Hospital, who had accidentally shot himself through the right mastoid process, producing a wound which had, either primarily or secondarily, opened into the lateral sinus; for at the post-mortem examination the ball had rolled out of its interior. There were neither symptoms of concussion nor much hemorrhage. In examining the wound with the probe, both from the direction of the track of the ball and the rather free venous oozing which followed the withdrawal of the instrument, Dr. Nancrede had suggested the probability of a wound of the lateral sinus. Profuse supuration ensuing, with marked meningeal

irritation and heavy chills, the bone was trephined, in hopes of affording freer exit for the discharge. A portion of the ball was found between the soft part and the bone. A temporary improvement ensued, only to be followed by other distinctly pyæmic paroxysms, ending in death on the seventeenth day. A small secondary dépôt was found in the left lung, and the right lateral sinus was partly filled with ante-mortem and completely with post-mortem clot. Whether the ball actually penetrated the sinus-wall at first, or only lay between it and the bone, ulcerating secondarily into the canal, cannot be told; but Dr. Nancrede thought that it had originally wounded the vessel.

Dr. Nancrede also presented a specimen of the superficial femoral artery, where the internal and middle coats of the vessel had been turned down and invaginated completely, occluding its lumen. The appearances presented were so similar to that figured by Dr. Speer, of Brooklyn, as produced by his artery constrictor, that Dr. Nancrede thought the specimen would prove interesting to the members. It had been removed from the left thigh of a young Swedish sailor whose limb had been crushed and pulpified by having a hawser wound round it by a tug-boat moving at a high rate of speed. The skin was opened only at one point; but the occlusion of the artery, with the crushing of all the structures of the thigh high up, had induced Dr. Nancrede to perform an amputation at the hip-joint. The patient rallied well from the operation, but eventually died on the third day, of spreading gangrene of the flaps.

Dr. Allis presented a case of gunshot injury. A young man, about 20 years of age, while handling his shot-gun,—the muzzle being near his arm,—received by an accidental discharge the entire load just above the elbow. The load entered the front and outer aspect of the arm, and escaped on the outer and posterior aspect, shattering the humerus, but leaving the large vessels and nerves uninjured. It was hard to conceive how the radial (musculo-spinal) escaped; but only a slight loss of sensation and power followed the injury in the course of this nerve. The immediate treatment was to combat the inflammation. Dr. Allis saw the case about a month after the injury. There were many large fragments of bone still to remove, and the sharp ends of the upper and lower fragments to resect. When this was accomplished, there was a gap of three inches; and, as the lower fragment was only about an inch long, the prognosis of a useful joint was not favorable. The wounds healed kindly after the resection, the ends of the bone united, the joint resumed its function, and the man is now quite as well able to make a living at his trade as before the injury.

Dr. Morton asked the question as to the proximity of the gun to the arm at the time of

the discharge, as, from the character of the wound, the load seems to have gone through as a single body. The patient replied that the muzzle was about six inches off, and that during the treatment eighty-three grains of shot were taken out, etc.

Dr. Mears asked Dr. Morton the practice of the Pennsylvania Hospital as to amputations and resections in gunshot and other injuries of the elbow-joint. Dr. Morton replied that in gunshot wounds the practice was to resect whenever the main artery and nerves were uninjured; but in compound fractures from heavily-loaded wagons or railroad accidents the rule was to amputate when the bony and soft parts alike were more or less involved.

Dr. Allis related a case of sabre injury to the front part of the elbow-joint, in which the median nerve was severed. A resection was some months later successfully performed by Dr. Moore, of Rochester. There was, however, no regeneration of nerve-power. The entire limb became atrophied and an encumbrance, and, at the request of the patient, Dr. Allis amputated just above the elbow. The injury to nerves as well as to vessels should, he thought, be considered in all attempts at conservative surgery.

Dr. Hunt then introduced the subject of the open dressing of wounds.

"The cardinal principle involved," said he, "is that of preventing suppurative fever, and this object is best attained, as will be shown, by leaving the stump entirely open, thus allowing of free and continuous drainage. The method of Dr. J. R. Wood is about as follows. After a limb has been amputated, the flaps are not even approximated, but are left entirely open. A pillow of oakum is placed under the stump, which is allowed to rest on this support until the wound is nearly healed. A small piece of gauze is placed over contour of stump, which also is protected from the bed-clothes by a cradle. No sutures, except a few in lateral skin-flap amputating. No bandage, charpie, or fenestrated compresses. The wound is irrigated with carbolized water, and balsam of Peru is poured over the granulating surfaces. It is said the discharges do not decompose at ordinary temperatures. When suppuration has nearly subsided, the flaps are approximated by adhesive strips. No sponges. Each patient has his own bottle of balsam, and, as far as practicable, separate instruments are used for each case.

"When I was first acquainted with the practice of the Pennsylvania Hospital, no sutures at all were used. The wound was brought together by adhesive straps, and the Maltese cross and charpie were applied. After this the water dressing was used for a long time, the wound being approximated either by straps or by sutures. Then close sutures, with light dressings of zinc ointment, were used. The open method, modified

somewhat, was tried, as was also the earth dressing. Now there is an almost universal use of sutures, which are closely applied and at once, in the hope of getting primary union. We all know that such union is extremely rare in major amputations. When there is much oozing, so as to forbid the closing of the wound at once, the most humane method is to introduce the sutures while the patient is still under the anæsthetic, and to leave them loose until the bleeding has ceased. We have had too little experience of the strictly antiseptic dressing at this hospital to pronounce upon its merits. No special records of the results of all of these ways of treating stumps have been kept. I may safely say, however, that all have had their shares of successes and failures, and that we have, as in almost all classes of cases, individual peculiarities to deal with which frequently on the one hand defy all our efforts, or on the other get well under whatever treatment may be adopted, provided the radical matters of free drainage and cleanliness are attended to."

Dr. Morton thought that the form of amputation and the subsequent dressings should depend much upon the nature of the disease or the injury for which the limb was removed. In railroad accidents, it was wise to go considerably above the point of injury, for often an amputation through what seemed to be sound tissues developed inflammation of a destructive character as a result of cellular and capillary injury. In secondary amputation or for chronic disease, the union of the flaps is often accomplished at once. His plan was to introduce drainage-tubes, to close the stump by silver wire, a few strips of adhesive plaster, and over the whole part carbolized oil or lint; then a firm bandage, if not much bruising of the adjacent soft parts; to watch the progress of the case, and, with the least swelling, to relieve at once all pressure, or even cut one or more of the sutures. Dr. Morton had on several occasions employed the open method, but found that the flaps uniformly retracted, giving rise to much trouble in securing a good covering for the stump.

Dr. S. W. Gross thought the views of Dr. Morton well taken. He felt that, in consequence of the undue retraction of the flaps, a corresponding amount of bone should be removed, and this was frequently a point of great importance. If drainage were the main feature in the "open dressing" of wounds, he was assured that this could be quite as efficiently carried out by plans well known to the profession.

Dr. Nancrede was not an advocate of the open method. He had never tried it except in a modified way. He had, however, dressed nearly thirty major amputations in the following way. After close coaptation of the flaps by sutures and straps (free provision having been made for drainage by tubes, bunches of catgut, etc.), the stump was washed out by

large quantities of weak carbolized water, and then dressed with antiseptic gauze or carbolized oil. At the end of forty-eight hours all dressing was removed except stitches and straps, and even the former if the drainage was imperfect. The limb was then placed upon a pillow, and covered with a piece of lint wet either with carbolized water, carbolic acid and iodine, or alcohol and water, used merely to prevent accidental contamination and to insure disinfection, while at the same time free drainage was secured by preventing the formation of occlusive scabs by desiccation of the discharges. In fact, whatever the dressing used, he always threw the stump thus open when tension and profuse or unhealthy suppuration occurred, and with the best results. One precaution was necessary even for this modification of the open method, —viz., to cut the flaps at least one-third longer than usual; otherwise, unpleasant retraction and protrusion of the bones might obtain. Where the deeper parts of the wound had united, with diminution in the amount and improvement in the character of the discharges, or where collections of pus occurred which did not drain away freely, the ordinary methods of compresses, from bandaging, with appropriate dressings, were of course resorted to.

Dr. Packard said that he had had no experience with the open method, properly so called, but that he had at one time adopted the Teale plan of merely suturing the flaps and applying no dressing whatever. He thought the open method would be objectionable where the tissues of the stump were largely muscular, on account of the danger of their retraction if unrestrained. It would be better to exercise choice between different modes of dressing, according to the size of the limb, the condition of the tissues and of the patient's system, and the atmospheric and other surroundings.

A simple and very generally applicable plan was to suture the edges of the amputation wound, leaving a drainage-tube between them, then to apply a complete covering of lint soaked in hot laudanum, and over this waxed paper, the whole being enveloped in cotton wadding (raw cotton), and a tolerably firm bandage applied in the case of restless patients. For those who lie quietly, the roller is not necessary, but broad strips of adhesive plaster suffice.

Dr. Mears considered the open-method treatment of stumps as at variance with the well-established principles of surgery. An amputation may be regarded as a large and deeply-incised wound, and the treatment should be conducted upon the same principles as those which guide us in the treatment of incised wounds in general. It is the duty of the surgeon in these wounds to promote primary union by accurate apposition of the cut surfaces, to provide for the prompt and

free escape of effused fluids by the introduction of drainage-tubes, when necessary, and to protect the wound by the application of suitable dressings.

If we study the healing of wounds in animals, we find that nature endeavors to protect the wound by a covering, whilst the reparative process takes place beneath. It seems hardly justifiable to submit the patient to the delay in the healing of the wound which the open method entails, or to the sacrifice of tissue required to be made in the formation of the flaps, which must be longer than when other methods of treatment are adopted.

Dr. Morton stated that he had resorted, two months since, to median cystotomy in the case of a male aged 60, who had extreme vesical inflammation due to the presence of a papilloma. The relief to the patient was immediate, and continues so long as the flow of urine through the wound meets with no obstacle. Dr. Morton had contrived a self-retaining catheter, which was just long enough to enter the bladder, with poles and side-slits, which answered very well; but it would not permit the patient to sit with any comfort. Dr. Morton asked the Fellows if they could suggest, from experience, an instrument which could be retained with comfort in all positions. A rubber ring cushion for sitting upon had been tried, but did not give the expected relief.

Dr. Packard suggested that a soft-rubber tracheotomy tube might answer the desired purpose in Dr. Morton's case, and alluded to the T-shaped drainage-tube of Trendelenburg as another device perhaps available.

Dr. Levis suggested making a second, very small, opening into the bladder, a little farther back, and then to pass a gum tube through and out at the original opening. This would secure drainage without inconveniencing the patient, allowing him to go about and to sit down without the annoyance of a rigid tube projecting through the tissues.

OSCAR H. ALLIS, M.D.,
Recorder.

NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, JUNE 15, 1882.

Dr. R. F. WEIR, Vice-President, in the Chair.

THE first scientific work of the evening consisted of a paper on "Static Electricity as a Therapeutic Agent," read by Dr. J. KNIGHT.

Having had experience in the use of static electricity for over fifty years, and having availed himself of much reliable information from others regarding it, he would endeavor to present the subject in as comprehensive a manner as possible. The opinion of authors was quoted with regard to the generation of

static electricity by the earth's motion on its axis, the variations in electrical condition of the air as caused by a change in the weather, its influence upon the growth of plants, its disinfecting virtues by the generation of ozone, its constancy and uniformity in the higher regions of the atmosphere, its relation to the death-rate, etc. He then spoke of the satisfactory results which he obtained with the use of static electricity in the treatment of various affections many years ago. The machinery for employing it at that time was very imperfect and often inconvenient, but the results were sometimes very striking. On coming to New York he heard of the wonderful cures produced by it in the hands of a certain specialist whom he afterwards assisted, and thereby gained much useful information in the practical application of the agent in the treatment of various affections. Since then he had used static electricity to a large degree, but on account of imperfect machinery he often had to resort to dynamic electricity, which in many cases was also a very useful therapeutic agent. The first efficient electrical apparatus for the generation of static electricity which he had seen in this country was one of Holtz's, which was on exhibition at a fair ten years ago. It passed sparks from pole to pole, a distance of six inches, under the most unfavorable conditions. He was unable, however, after this to find another like it in the market. Static electricity was subject to many forms of application different from dynamic electricity, and was, he believed, more extensively useful as a therapeutic agent. Its influence upon the animal economy was both that of an excitant and of a decided sedative, while, according to his long experience, dynamic electricity acted merely as an excitant, and therefore had a more limited field of usefulness. With the former the practitioner had the power of controlling various degrees of nervous energy, either of deficiency or of excess. The influence of a shock, if desired, could be directed immediately upon the part affected. For its proper application, the operator should have a profound knowledge of anatomy and physiology and therapeutics. Its usefulness was seen in the treatment of nervous exhaustion, paralysis, erysipelas, gangrene, indolent ulcers, deficient nutrition, etc. Indeed, it worked in the direction of health even in the most opposite affections. It quickened the vital forces or animal function of the parts to which it was applied; it had a reactive power, and, as an alternative, promoted nutrition. In the latter case it acted either by means of the nervous system or by direct influence upon the tissues of the part. For this purpose either galvanic or static electricity might be used. As a general rule, the current should be feeble, and the application long continued. It was useful in the promotion of action in the absorbents in cases of effusion of serum or lymph, and almost all kinds

of tumors, with the exception, perhaps, of those of a malignant nature. In these cases the rule was to apply it directly to the parts affected, although the idea was not forgotten that a vital stimulus artificially applied directed its influence preferably upon that function whose efficiency was suspended, or, in other words, it tended to harmonize the various vital functions when disproportionate. A graphic description was given of the case of a man whose joints became stiffened following exposure from work on a mill-dam, disabling him entirely from locomotion, and causing great suffering. By repeated applications of static electricity, extending over several months, he was finally cured and enabled to return to business. On more than one occasion during the treatment by electricity he became excessively irritable, although an improvement in the joint-trouble was noticeable. Venesection and less assiduous electrical treatment for a time relieved these apparent congestions of the brain. His experience with it in private practice and in the Hospital for the Ruptured and Crippled corresponded so closely with that of Dr. Goldenberg that he felt justified in quoting largely from this writer. Favorable results had been obtained in cases of paralysis of the portio dura, of one limb, of one side of the body, etc.; in cases of rheumatism and its results, of atrophy of the muscles from different causes, of drop-wrist from lead-poisoning, etc. Authors were quoted to the effect that cases of hemiplegia after apoplexy had thus been cured. If improvement ceased under the use of electricity, he would recommend its discontinuance for a week or two.

DISCUSSION.

Dr. DANA had seen improvement in certain cases from the use of static electricity, which led him to inquire whether it was true that electricity was confined entirely to the surface of the body and did not penetrate more deeply. In the cases referred to, the patients complained of what they called "biliousness," and a constipation of the bowels, etc. After applying the electric roller and shocks over the abdomen and region of the liver for a time, they greatly improved, and were very much satisfied with the result of the treatment. This satisfaction could not have been due entirely to an imaginary improvement, as they had before been subjected to various methods of treatment, as by the faradic current, etc., but without benefit. These results would seem to point to a penetration of the electricity to some distance within the body; but after some not altogether conclusive experiments he had come to the conclusion that the generally-accepted idea that it was confined to the surface was correct, and that the influence upon the deeper parts in these cases was due to

reflex action. He had observed the tonic effect which the electric bath had upon certain persons, as referred to by the author of the paper, but that a larger number were benefited by static electricity than by other forms he thought remained yet to be proved.

Dr. MORTON thought the history or growth of static electricity in this country might be divided into three periods: the first extending from 1740 to 1800, when the subject of electricity in general attracted wide attention; the second, a period extending from 1800 to 1869, when the subject of static electricity received comparatively little attention; the third period beginning with 1869, at which time Prof. Charcot's labors directed attention to it anew. Two years ago, he, Dr. Morton, read a paper on the subject before the Academy, which he believed did much to give it the strong impetus which it had lately received in this country. It was a valuable therapeutic agent in cases correctly diagnosed and properly selected. Much depended upon the manner of its application, and he believed it should be used in strong quantities rather than in feeble quantities. It should be applied, as far as possible, directly to the affected part. We had no reason to suppose that static electricity applied to the system in a general way acted as a therapeutic agent in a special manner, any more than did heat, light, etc. In certain forms of paralysis, electricity produced muscular contracture while galvanism did not. There was great danger of giving the electrical method of treatment the credit of effecting a cure when in fact the affection disappeared, so to speak, of itself. There was only one class of cases in which he believed static electricity possessed advantages over other forms,—namely, those with which there was associated an hysterical element. In such, by applying the shock pretty freely over the spine, he had often seen sensitiveness of certain parts of the body, cold hands, numbness, etc., disappear. It was of value in stiffness of the joints from gout, rheumatism, etc., and in paralyses where it was desirable to excite the muscles. It was easier of application than other forms of electricity. As to its influence upon the deep-seated organs, he had had a little experience, which corresponded with that of Dr. Dana.

Dr. ROCKWELL thought the interest of the question centred in the fact whether static electricity had or had not advantages over the other two forms of electricity in use as therapeutic agents. That static electricity possessed restorative virtues he believed, but that it excelled the other forms in this respect he did not believe. It was easier of application both to the operator and to the patient, and for that reason he was almost tempted sometimes to make use of it more extensively when he felt that as a matter of fact it would be less likely to prove beneficial. If the other

forms ceased to be of benefit in a given case, he thought it well to try this, and afterwards return to the former, just as it was often of benefit to change the kind of drug administered although the object desired to be effected remained the same. He believed that static electricity did have an effect quite deeply in the tissues, but how, was unexplained.

In closing the discussion, Dr. KNIGHT thought much credit was due Dr. Morton for exciting an interest in the subject of static electricity in this country by the paper which he read before the Academy two years ago.

Dr. FREDERICK D. LENTE read a paper entitled "A Hitherto Undescribed Lesion of the Knee-Joint." The lesion referred to was produced by a variety of accidents, most of them of a trivial nature. A man, for instance, while walking along a road might strike the toe of his boot against some obstacle, causing only sufficient pain to induce him to limp slightly in the knee for a few yards, but after a day he finds his knee becoming slightly painful on locomotion. This may disappear, to be renewed from time to time, and with increasing severity, until, if neglected, the stiffness and soreness of the joint may be such as to require confinement to the house for many months. Several such cases which had fallen under his own care, and others of which he had heard, were related. Different from other knee-joint affections, the patient found greatest comfort with the limb in an extended position. The seat of the pain on pressure was usually just on the inside of the joint. His treatment consisted in perfect rest by applying a splint, retaining the limb in the extended position. No danger was to be feared of ankylosis from too protracted immobility. Several writers mentioned cases somewhat similar, and spoke of displacement of the semilunar cartilage, etc., but he believed that in no case did the description correspond fully with what he had mentioned. The pathology of the lesion he would leave for others to suggest.

The Chairman remarked that since reading an article on the subject by a German authority he was less disposed to regard this lesion as one of displacement of the semilunar cartilage, but rather as an inflammation of it often arising from a slight injury. He not infrequently saw such cases at the college clinic, and a cure was almost always effected by absolute rest.

Dr. L. H. SAYRE related a similar case, and referred to others in his practice, and he felt indebted to the author for calling attention to a lesion which too often went on to serious consequences because regarded as of little importance and not properly treated when the physician's attention was first called to it.

Dr. JUDSON said that if we might be al-

lowed to theorize upon the pathology of the lesion, he thought it not impossible that some of the cases had their origin, perhaps, in a disease of some of the tissues entering into the formation of the joint, and not in the accident to which it had been attributed.

Dr. GIBNEY thought the point of practical interest, and one which deserved special attention, was the fact that absolute rest of the joint should be secured a sufficient length of time. There was no danger of ankylosis.

The Academy adjourned to meet on the first Thursday in October, 1882.

NEW YORK PATHOLOGICAL SOCIETY.

A MEETING of the Society was held June 14, 1882, Dr. E. C. SEGUIN, President, in the chair. The minutes of the previous meeting were read, and approved as corrected.

MYXEDEMA.

Dr. CUSHING presented the heart and kidney of a patient who died of this affection. She was 57 years of age, and had borne twelve children. Her general health had been good. About fifteen years ago her friends noticed a change in the appearance of her face, as if it were swollen. Dr. Cushing first saw her five years ago, at which time she presented very much the appearance of a person suffering from Bright's disease of the kidneys. The face was swollen and waxy in appearance; the extremities were swollen, particularly the lower ones; the skin was shiny in appearance, and dry and scaly. There was a peculiar obliteration of all the lines of the face, and while in general the appearance was that of Bright's disease, in some respects it differed. The lips and the tongue were thickened, the eyelids were boggy, and there was a marked line of pallor between them and the pink-colored cheek below, more marked during the last year or two of her life. The hair was dry and brittle. After careful examination, she was unable to discover any cause for the œdema. There were no signs of kidney-disease, and the heart was only a little enlarged at this time, and manifested no lesion of the valves. There appeared to be nothing abnormal about the lungs, liver, or spleen. About a year and a half ago she read an article in the *Medical Record* on myxœdema, in which the description of the disease corresponded so nearly with what was observed in this case that she hesitated no longer in making the diagnosis. Dr. Putnam Jacobi saw the patient with her, and they quite agreed that she was suffering from myxœdema. No special symptoms arose further until two weeks ago, when an acute dermatitis developed, and just before death there was an acute inflammation of the upper por-

tion of the left arm, and a small circumscribed phlegmon of recent date was found in the right breast. The patient was in a somewhat stupid condition, requiring comparatively a long time to comprehend questions and answer them, and this condition increased towards the close of life. Still, she read a good deal, and was intelligent when aroused. Death took place from progressive heart-failure. A microscopic examination of the organs had not yet been made. The heart was enlarged, the arteries undergoing atheromatous degeneration, the liver normal in size, but quite firm, as were also the kidneys. All the muscles of the body were very pallid. There was an infiltration in the fat throughout the body which seemed to be mucoid in character. The simple œdema of the extremities had disappeared, and the mucoid infiltration seemed to have remained only in the face and the upper part of the back.

Dr. HOWE remarked that some authorities considered the œdema due to a low grade of inflammation of the cellular tissue.

In reply to a question by the President, Dr. CUSHING said the speech seemed not to be affected except as it might be accounted for by the great thickening of the tongue, which was probably due to mucoid degeneration.

The President had seen a patient within a week upon whom he was about to pronounce the diagnosis of myxœdema. She had œdema, apparently, although the swollen face did not present exactly the appearance that it does in Bright's disease. It was heavy rather than boggy in appearance, the lips projected and were markedly thickened, and the tongue was enlarged. There had been œdema of the legs, but it had disappeared. No heart- or kidney-disease was apparent. The patient was anæmic, the speech was affected, she was slow in her mental processes, the memory was weak; she had had numbness of the fingers.

Dr. HOWE asked whether the mucoid degeneration in the connective tissue was not secondary to a progressive cellulitis, and not a primary change.

Dr. CUSHING replied that the cellular inflammation in this case did not develop until about two weeks before death.

CEREBRO-SPINAL MENINGITIS.

The specimen was presented by Dr. DRAKE, and the patient from whom it was obtained died in Bellevue Hospital on the 11th of June. On his admission, on the 5th of this month, he was in a comatose state, and had considerable convulsive movements. There was marked loss of sensation, particularly on the right side, which side also was paralyzed. The temperature was 104° F., the pulse 98, hard in character, and occasionally intermittent. Both pupils were contracted. Respi-

ration 24. The diagnosis of meningitis was made. The following day the temperature had risen to nearly 105° , the pulse 100; there was less loss of sensation; he moved when irritated on the right side, but was more sensitive on the left. On attempting to set him up in bed, considerable rigidity and tenderness of the back was discovered. It was not before the second day after his admission that a history could be obtained, which was that he was a German, 45 years of age, a coal-heaver. While at work on the 3d of this month he was suddenly taken sick, had some convulsive movements, became unconscious, and he remained so until death. On the third day after admission he was sufficiently conscious to put out the tongue. The pulse and temperature afterwards rose higher, and on the 11th he died. At the post-mortem examination all the organs except the brain and the cord were found normal. There was a large amount of sero-purulent fluid at the base of the brain, and also on the anterior surface of both hemispheres. The ventricles were widely distended with sero-purulent fluid. There was a purulent exudation throughout the whole length of the cord, most marked in the dorsal portion, and confined posteriorly. He presented the case more especially to obtain an expression of opinion as to the great suddenness of the attack, the patient being able to continue his work up to its onset.

Dr. J. LEWIS SMITH had seen a case of cerebro-spinal meningitis recently in which the post-mortem changes were very much like those in Dr. Drake's case. The child was attacked suddenly, and he believed it to be the rule that the disease began apparently without any premonition.

Dr. DRAKE remarked that it developed slowly in a case he has under observation at present. The patient recovered from the first attack, but has relapsed from time to time.

SARCOMA OF THE BRAIN.

Dr. AMIDON presented the specimen. It was removed from a man 49 years of age, whose paternal grandfather died of cancer of the stomach, and his own sister died of cancer of the breast. The patient himself had been healthy until a year before death,—had had no disease which would throw light upon this illness. In November, 1880, he had a very severe attack of neuralgia in the left occipital region, the pain being located about midway between the mastoid process and the median line of the occiput, extending down upon the back of the neck upon the left side to about the second or third cervical vertebra. It was much worse at night. It continued about a month, and over this region there was marked hyperæsthesia. The next summer he was pretty well, with the exception of a tired feeling in the legs, and occasional attacks of what could be de-

scribed only as a general malaise. In October, 1881, the legs became stiff, particularly the right one, which was also numb and œdematous. The walk was stiff and labored. Two prominent homœopaths were consulted, one of whom made the diagnosis of anæmia of the spinal cord, and the other of locomotor ataxia. In November he consulted Dr. Seguin, who put him under Dr. Amidon's care. At that time he had had for the past three weeks hemispasms, beginning in the right abdominal muscles, invading the arm and leg of the same side, but never extending to the face. They occurred frequently, but without loss of consciousness until after three weeks. Dr. Seguin made a note of partial right hemiparesis, a stiffish, weak right leg, a pretty good grasp, no aphasia, no headache, no choke-disk. About December 4 he had paresis of the right leg, slight paresis of the upper part of the right arm, and he gradually became hesitating in speech. The movements of the right shoulder and elbow were partially restricted, but the grasp of the right hand was strong, and there was no paresis of the face or lesion of the optic nerve. About this time he had a fainting-spell in the night, in which he nearly died. A similar one occurred on the 6th of December, 1881, causing death. The last time he saw the patient before death there was complete right hemiplegia, almost complete aphasia, no choke-disk. The only lesion found at the autopsy was in the brain. The convolutions in the left parietal region were very much flattened, extending also to the occipital region, but there was no flattening in the frontal region. A section through the brain revealed a tumor in the left paracentral lobule about the size of an English walnut, and another the size of a pea. It was sarcomatous in character, and surrounded by a zone of excessively vascular tissue. A curious fact in the history was the loss of power in the elbow and shoulder while the grasp of the hand was still strong.

TRISMUS NEONATORUM.

Dr. J. LEWIS SMITH presented a specimen removed from a child who died at the age of 15 days. Eight days after birth there was rigidity of the masseters, the rigidity afterwards affecting nearly all the muscles of the body. It was pretty well controlled by the free use of hydrate of chloral, but about twenty-four hours later the opposite condition appeared, there being great relaxation of all the muscles. The child died, and at the post-mortem examination the only abnormal appearances discovered were the signs of a general peritonitis, the cause for which was not ascertained. Various causes had been assigned by different writers for trismus neonatorum, but no uniform lesion had been found at autopsy.

The Society went into executive session.

GLEANINGS FROM EXCHANGES.

TREATMENT OF ACUTE SPINAL PARALYSIS.

—In some remarks upon Acute Spinal Paralysis in the *British Medical Journal* for May 20, Dr. Gowers gives some points as to treatment which are interesting and suggestive. He says, "Many points in the treatment of these cases deserve discussion. What is the best posture for a patient in the early stage of the disease? The extreme distention of the vessels within the spinal canal in a body which has lain on the back, familiar to all, suggests how undesirable this position is in acute myelitis. And yet, in many cases, no other posture can be borne for long, and motion is as undesirable as gravitation. We have too often to be content with a compromise. The prone position is the most desirable; next to that, if rest can be secured in it, the lateral; the worst is the dorsal."

"Are any local applications to the spine desirable in the early stage? It is only rational to treat these cases as we should treat other internal inflammations. But of the forms of local treatment,—leeching, counter-irritation, warmth, or cold,—which is best? Much must undoubtedly depend on the patient's age and state. Counter-irritation has fallen somewhat into disfavor as a means of treating the acute stage of inflammation. It is probable, however, that this *modus operandi* and that of heat and cold do not greatly differ; that, by each, first vascular constriction and then dilatation are obtained; and so blood-stasis is lessened, and, therefore, also the migration of leucocytes, which the microscope has proved to play an important part in the damage to the spinal cord from acute inflammation. But how important it is that this effect should be aided by a posture which lessens mechanical congestion! I cannot but think that the damage to the cord would often be lessened were the early treatment of these cases conducted on the principles which we apply to acute inflammation elsewhere."

"Should not the internal treatment in the early stage be rather that for the morbid process than for its seat,—be that for an internal inflammation rather than for a disease of the spinal cord, and therefore consist of aperients, diuretics, and agents which act on the vascular system, rather than nerve remedies? During the stage of recovery, there seems no reason to doubt that nerve tonics do some good; and on the value of electricity and skilled rubbing there is a fair agreement of opinion. When the disease was regarded as purely muscular, it was thought that electricity actually cured it in some cases. The proof that the seat of the disease is the spinal cord renders this opinion extremely improbable. Beyond doubt, the application of the voltaic or constant current to the muscles (to which their fibres will still respond, although

insensitive to faradization) improves their nutrition, lessens their wasting, and keeps them in a better condition to respond to any nerve-power over them which may ultimately be regained by the recovery of damaged cells and regeneration of degenerated fibres. Thus the ultimate state of the patient is better than it would be without electricity. It is desirable, therefore, to use such a current as shall cause slight visible contraction in the muscles. Unfortunately, children are often so much frightened by even a very weak application that the needful strength cannot be employed without causing an amount of emotional disturbance, which may not unnaturally be regarded as doing the child more harm than the electricity does good. Here, again, we have sometimes to be content with a compromise. A weaker current than will cause contraction has probably some influence on muscular nutrition; and I think the best rule is to employ such a strength as the child will bear without much emotional disturbance, whether we can thus get muscular contraction or not. If care be taken to avoid alarming the child at the commencement, a current of some strength can often thus be employed."

"Is the influence of electricity confined to the muscles? Does it aid the recovery of the spinal cord and nerves? Some believe that it does, and urge, therefore, that in treating the muscles one pole should be placed upon the spine; and the method is, on *a priori* grounds, a reasonable one. But the tendency of the disease to spontaneous improvement renders it extremely difficult to form an opinion on this point. For myself, after a careful comparative trial of the two methods of applying electricity,—from the cord to the muscles, or to the muscles only,—I have been unable to observe any superior advantage in the former method, which seems, even when a large spinal electrode is employed, to disturb children more than the application to the muscles only. At the same time, beyond the increased discomfort, there is no objection to the application of one pole to the spine."

"How soon should electrical treatment be commenced? I cannot think it desirable to apply the voltaic current to the spine within one month of the onset; but it may certainly be applied to the muscles, with care, much sooner,—at the end of ten days or a fortnight, when the 'reaction of degeneration' has become distinct."

A CASE of poisoning illustrating the antagonism between strychnia and morphia is reported by C. Harrison, M.D., in the *Lancet* for May 13:

"J. W., aged 54, stated to have taken a small packet of Battle's vermin-killer at 4.40 A.M. on Wednesday, February 15, 1882. When seen at 8.45 A.M. he was lying on his back in bed, bathed in perspiration, countenance dusky, lips livid, pupils contracted. Pulse 130; arms and abdominal

muscles flaccid; legs rigid, calves hard as a board, soles of feet curved. Complained of a feeling of suffocation and intense thirst. An emetic of sulphate of zinc was given, and warm milk-and-water. On attempting to raise him to take the liquid, violent spasms came on, the arms, neck, and jaw becoming stiff. Soon after taking the emetic he vomited copiously; he was then ordered twenty grains of hydrate of chloral every two hours. After the first dose of chloral the spasms were less frequent, and the rigidity gradually subsided; after the third dose he was much improved, but the legs still continued rigid, the muscles of the neck were painful, and the mouth was opened with difficulty. His chief complaint, the intense thirst, was relieved by sucking ice. On the third day he was convalescent.

"On becoming calmer, the following history was obtained from the man. He had been drinking freely for some time previously; had eaten no food for a few days, and was very depressed. Went to bed on the afternoon of the 14th inst. in drink, and, being restless during the night, and scarcely knowing what he did, went down-stairs about 4.40 A.M., mixed a package of vermin-killer with all the laudanum he could find (about a teaspoonful and a half), then added some rum, and, having swallowed it, he rinsed the glass with more rum and drank it. He went back to the bedroom, walked about for half an hour, then lay down. First spasm came on about 5.30, and recurred regularly every half-hour, commencing in the legs and shooting through the body. Each spasm drew him up, and he felt as if his hands and arms were frozen to his chest. His housekeeper, who slept in an adjoining room, stated she first heard him cry out about 6 A.M., but she took little notice of it, as he often made noises when in drink. She heard him several times, and went to him at 8 A.M. She found him in bed, staring and grinning at her; his head was thrown back over the pillow; he seemed to be resting on his heels and the back of his head. Was stiff and immovable, and his body was arched like a bridge; hands fast to his side. The first quantity of urine passed was accidentally lost, but from the second (about four ounces) one-twentieth of a grain of strychnia was obtained. No strychnia was found in his vomit. On examining a threepenny packet of Battle's vermin-killer I found it to be a slaty blue color, weighing fourteen grains, composed of wheat starch and three-quarters of a grain of strychnia.

"The case is interesting, as, after a poisonous dose of strychnia, taken under the most favorable conditions for absorption, fifty minutes elapsed before any symptoms exhibited themselves, and the man was alive four hours after, although no treatment whatever had been adopted. No doubt a fatal result was prevented, and the intensity of the symptoms

modified, by the laudanum which was added for the purpose of making the dose more deadly. A case is reported in the *Lancet* of 23d December, 1871, where a packet of this vermin-killer was taken with two drachms of laudanum and some binocide of mercury. When seen three hours after, there had been no strychnia symptoms, but dangerous narcotism. In the case of J. W. there was no narcotism, but severe spasms, which were almost immediately relieved by the hydrate of chloral."

MISCELLANY.

DETAILED FOR FOREIGN SERVICE.—The *English Army and Navy Gazette* says, "We have been informed that when the medical officer in charge of women and children at Netley recently proceeded on leave of absence, his work was delegated to another officer, who, being called upon to attend a woman in labor, informed the applicant that he had not seen such a case for more than fourteen years. The other officer was recalled by telegram. Should this statement be correct, it seems to us that it would certainly be for the interest of the Service if the delegated officer was placed for instruction under a qualified midwife, the course to count as a tour of foreign service."

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JUNE 11 TO JUNE 24, 1882.

MAGRUDER, D. L., MAJOR AND SURGEON, MEDICAL DIRECTOR OF THE DEPARTMENT.—The leave of absence granted him from headquarters, Department of the Missouri, extended fifteen days. S. O. 64, Military Division of the Missouri, June 22, 1882.

ELBREY, F. W., CAPTAIN AND ASSISTANT SURGEON.—To be relieved from duty in Department of the Missouri, July 1, 1882, and to report in person to the Surgeon-General in this city. S. O. 137, A. G. O., June 14, 1882.

HOFF, J. V. R., CAPTAIN AND ASSISTANT SURGEON.—Having reported at these headquarters, is assigned to duty as post-surgeon at Alcatraz Island, California. S. O. 107, Military Division of the Pacific and Department of California, June 17, 1882.

REED, W., CAPTAIN AND ASSISTANT SURGEON.—To accompany the troops from Washington Barracks, D.C., and Fort McHenry, Md., on their march to the summer camp at Gaithersburg, Md., and to remain on duty with them during the encampment. S. O. 104, Department of the East, June 9, 1882.

APPOINTMENTS.

To be Assistant-Surgeons, to rank from May 23, 1882.

WM. E. HOPKINS, of California, vice Yeomans, deceased.
CHARLES C. BARROWS, of Mississippi, vice Brewer, deceased.
BENJAMIN MUNDAY, of Virginia, vice H. E. Brown, promoted.

GEORGE F. WILSON, of Oregon, vice J. M. Brown, promoted.
WILLIAM E. OWEN, JR., of Tennessee, vice King, resigned.
PETER R. EGAN, of New York, vice Hubbard, promoted.
WILLIAM J. WAKEMAN, of Connecticut, vice Coues, resigned.

EDWARD EVARTS, of California, vice Whitehead, deceased.
A. G. O., June 12, 1882.

NOTSON, WM. M., MAJOR AND SURGEON.—Died at Columbus Barracks, Ohio, June 23, 1882.

MOFFATT, PETER, CAPTAIN AND ASSISTANT SURGEON.—Died at Fort Coeur d'Alene, Idaho, on June 15, 1882.

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ORIGINAL COMMUNICATIONS.

ON THE RATIONAL TREATMENT OF PULMONARY CONSUMPTION.

*Read before the Philadelphia County Medical Society,
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MR. PRESIDENT AND GENTLEMEN,—At a former meeting* I had the honor of presenting for inspection by the members of this Society a case of pulmonary consumption which had greatly improved under treatment. When I first saw him, at the German Hospital, it was nearly nine months after the commencement of his sickness; he then exhibited the usual phenomena of pneumonic phthisis with commencing softening, constant cough, free expectoration, progressive anæmia and emaciation, and profound depression of the vital functions; but the most serious symptom was the frequently recurring hæmoptysis. Two months later he had gained twenty-four pounds in bodily weight, he was bright and cheerful, his strength had returned, the cough and expectoration were reduced, he slept well, and had no more hemorrhages. Indeed, so marked was the change that I felt warranted in demonstrating it to you. We then examined his lungs, and found a slight impairment of resonance only remaining at the right apex to indicate the site of former disease. His improvement was not only in his appearance, but was also evident in his physical condition; it was, in truth, so great that a few weeks later he was discharged at his own request, to return to his home in Europe. I have since been informed that during the sea-voyage he was accidentally exposed to cold and wet and subsequently perished from congestion of the lungs.

At the time of presenting this interesting case I stated that the manifest improvement here could not be attributed simply to one of those lulls so common in phthisical subjects, for it was too lasting; moreover, the physical signs showed changes too decided to admit of such explanation.

Nor was it simply due to a change in his habits of life following admission into the wards of a well-conducted hospital, which is so often seen in patients from the lower walks of life; for he had been for several months under treatment and was steadily getting worse when I first saw him. Moreover, I had witnessed similar cases of improvement from systematic treatment, although perhaps not quite so striking. As the result therefore seemed so fairly attributable to the treatment, I exhibited it as such, and promised at some future time to bring the therapeutic method before you for discussion. The Board of Directors having honored me by an invitation to read a paper this evening, I embrace the opportunity of making a few remarks upon a general method of management that I regard as a rational treatment of pulmonary consumption,—a topic whose importance, I am sure, will relieve me of any need of apology for bringing it up again for your consideration. Each member of the Society has views based upon personal observation of this destructive disease; no one here is unfamiliar with its ravages; each has experimental knowledge acquired in its treatment, and has satisfied himself of the value of some remedies and the want of efficacy of others. If our discussion this evening will develop some new facts from this fund of experience, or enable us better to appreciate those already in our possession, my object in making these remarks will be accomplished. I bring the subject before you the more willingly because we have already had during the present winter two valuable papers presented upon allied topics,—one upon the diagnosis of the early stages of consumption, by Dr. J. T. Eskridge; the other upon its etiology and morbid anatomy, by Dr. James C. Wilson. As I concur in the general opinions expressed in those essays, it seemed to me that the series might be completed by a paper on the treatment of consumption. I can only express the hope that this necessarily brief and imperfect sketch of a most important topic may be thought worthy to complete it. The advantage resulting to me is that I am spared the necessity of discussing theories of consumption and the question of diagnosis, and may proceed directly to my subject of treatment. But before doing so I must premise a word of explanation.

* Proceedings, vol. ii. p. 5.

I have made use of the words "rational treatment." By this, however, I would not wish to use the term in its old acceptation as opposed to the teachings of experience; on the contrary, I employ the term in a modern and, I think, a higher sense. I believe that it is now generally admitted that the mode of treatment that can be demonstrated as curative in any disease may be considered as pre-eminently rational; and I might quote good authority for this use of the title. Just as the word "empirical" has of late years acquired a restricted and rather discreditable meaning, so the term "rational" has become more comprehensive. At the present time I would define a rational method of treatment as one intelligently combining a knowledge of pathology, upon the one hand, with that of the actions, both physiological and clinical, of remedies, upon the other. If you will accept this definition, I hope that the general outline herein presented may meet your views as to the requirements of a rational treatment of consumption.

Let me say at the outset that with the disease known as miliary tuberculosis—an acute infectious disorder—I have nothing to do at present. It appears to be a variety of septic poisoning, with accompanying febrile disturbance, due to the introduction of infecting material into the blood of an organism unable, from constitutional causes, to resist its influence. When it occurs in pulmonary consumption, as Niemeyer taught, it is an accidental complication, and does not belong of necessity to the clinical history of the disease.

In thus referring to the results of tubercular infection, in which the miliary deposits are not confined to the lungs, but are found in nearly all parts of the body, I would not confound it with the form of "galloping consumption," which Buhl terms acute desquamative or parenchymatous pneumonia. In this disease, miliary tubercles are not encountered, but *true* tubercular lesions are found in the mucous lining of the bronchioles, surrounded by inflammation, caseation, and more or less softening, which may lead to extensive destruction of the lung within a short time. Such a case came under my observation about ten years ago at the Pennsylvania Hospital, in a large man, who had been on a drinking-bout, in which he suffered considerable exposure. Shortly afterwards

he developed pulmonary symptoms: a large cavity rapidly formed at the upper part of the left lung, but at the post-mortem examination no appearance of miliary lesions was found; both lungs were caseous. Let me say, finally, that from a standpoint of pathological anatomy, as well as of clinical experience, there are strong grounds for regarding the characteristic elementary lesions of the two forms of tubercle as distinct in their nature as they are in their situation, physical characters, and causes. I will also be obliged to omit consideration of syphilitic phthisis, or syphiloma of the lung, the treatment of which by iodides gives such brilliant results.

With the exception of the forms mentioned previously, pulmonary consumption is essentially a chronic disorder, and therefore affords ample scope for the exhibition of our therapeutical skill. Unfortunately, the *materia medica* has been searched in vain for a specific remedy; nor need we seek much further in this direction. Regarding phthisis pulmonalis essentially as a constitutional weakness having a local expression, it would seem that in order to cope successfully with the disease we must, to a certain extent, regenerate the individual, place him under conditions favorable for health, and require of our pharmaceutical remedies only a certain amount of aid in removing obstacles to recovery, and in the improvement of nutrition. It appears to me, therefore, that the principal factors in the therapeutic problem presented by a case of pulmonary consumption might be broadly stated as follows: 1, to relieve urgent symptoms; 2, remedy bad hygiene; and, 3, remove the dyscrasia.

I will discuss these indications for treatment in the order in which they stand, first taking up the relief of a few prominent symptoms, of which, as my time is limited, I can only at present offer the briefest suggestions, and such as appear to be sustained by experience.

I. RELIEF OF URGENT SYMPTOMS.

LUNGS AND AIR-PASSAGES.

Cough.—It is always a nice question to decide how much we may interfere with the cough. It is understood that, if we could remove the morbid condition upon which the cough depends, we get rid of the cough without trouble. In addition to the increased secretion in the larger tubes

there is an increased reflex excitability of the mucous membrane, and this hyperæsthesia of the pneumogastric filaments appears to be a part of a general neuropathic condition, to be discussed farther on. In many cases of consumption there is also more or less bronchial or laryngeal ulceration. It is impossible, therefore, to quickly remove the cause of the cough. Shall it be palliated? If paroxysmal and exhausting, it must be palliated; but if loose and not very annoying, it seems to me that it should not be much interfered with. In fact, free expectoration during the day should rather be encouraged, so that we may be at liberty to administer at night an efficient hypnotic that will hold the cough in check and allow several hours' uninterrupted sleep. As to the remedies to be used, I think the best combination, where the expectoration is scanty and the cough spasmodic, is the morphia and ipecacuanha lozenge (containing only the fortieth of a grain of morphia), using three or four in the course of the day. Troches of codeia are useful in paroxysmal coughing.* Where the cough is loose and bronchorrhœa exists, fluid extract of ergot in decided doses sometimes acts well, both directly upon the vessels of the mucous membrane, and indirectly upon the heart and circulation. The steam atomizer may also be used once daily, with lime-water and belladonna (gr. j to $\frac{3}{4}$ iv), or, if the secretions are fetid, with solutions of carbolic or salicylic acid, thymol, or benzoate of sodium; and where the catarrhal condition is marked, a medicated water of volatile oil of eucalyptus I have used with very satisfactory results. The last-named agent may also be used in the hot-water inhaling apparatus, or compound tincture of benzoin, turpentine, or iodine substituted. Of the aërial inhalers (used through a *respirateur* or on a handkerchief), the principal one is emphatically chloroform; but it should be controlled by the physician himself. This has yielded so much relief that a few years ago it was lauded as curative, and even now is believed to be the basis of a popular and profitable ozone cure for consumption. A mixture of ether and eau-de-Cologne (one

part to four) may be given to patients to inhale in the intervals, if the cough is spasmodic and severe. Iodine and carbolic acid (one to three), dropped on some absorbent cotton already impregnated with the oil of nutmeg, is sometimes efficient, the vapor being inhaled once or twice daily, for ten or fifteen minutes at a time. I have not the time, however, to extend further this list of agents, whose method of administration possesses the great advantage of medicating the air-passages directly, without disordering the stomach or passing through the general circulation, and whose virtues are not to be limited or measured by their merely antiseptic qualities.

As regards cough mixtures *per se*, their name is legion. I would say at the outset that it has seemed very evident to me, from my own experience, that unless you have given up all hope for the patient, and can only look for euthanasia, opiates should be given with the greatest care, and only in minimum doses. The conviction that opium freely given hastens death in consumption, from observation of its current abuse in hospitals particularly, has been impressed upon my mind too deeply to be easily shaken. I would therefore prefer other agents where a cough remedy is required, such, possibly, as atropia, hyoscyamus, or hydrocyanic acid combinations, chloral, with bromide of ammonium, sodium, or potassium, according to circumstances. Where there is a constant hacking cough, the bromide of potassium acts magically, but is too depressing for constant use. Where it is safe to use opium, a combination, introduced by Prof. Da Costa, of deodorized tincture of opium (gtt. iij-v), dilute sulphuric acid ($\frac{1}{2}$ ij-ijj), and syrup of wild cherry ($\frac{3}{4}$ i-ij), is pleasant and very efficient. The infusion of prunus Virginiana, properly made, is a good antispasmodic and, at the same time, tonic, and was formerly used in consumption much more than it is at present. The lycopus Virginica (bugle-weed) infusion ($\frac{1}{2}$ ss to Oj) enjoyed a high reputation at a former period in the treatment of consumption, a wineglassful being taken three or four times a day. It contains a volatile oil, bitter principle, and tannin, and is tonic, sedative, and astringent. The fluid extract may now be obtained, and may be used in dose of from eight to thirty minims, to be gradually increased; but the recent infusion is the best method of ad-

* The taste of the official lozenge is very disagreeable to some, as the gaultheria does not disguise the nauseous taste of ipecacuanha. To obviate this, Mr. J. F. Hayes, of the St. George Pharmacy, has, at my suggestion, made troches containing one-twentieth of a drop of oil of cinnamon, or one drop fluid extract of coca, either of which completely covers the taste. Samples of these lozenges were shown at the meeting.

ministration. This remedy seems also to have fallen into undeserved neglect. Cases that have been recorded satisfactorily establish its good effects when used in conjunction with proper hygienic care of the patient.

When the larynx is affected, it appears irritated and swollen by the constant efforts at coughing, and often displays ulcers, which are usually secondary, and not tuberculous. Much relief will be obtained by habitually restraining the spells of coughing; by local treatment (sprays of lime-water, etc., or applications of iodoform in ether, etc.), gargles of weak astringents, or lemonade containing white of egg; or by demulcent lozenges (marshmallow, or chlorate of potash, etc.) allowed to dissolve slowly in the mouth. Local applications to the larynx are often of great service, especially in tubercular ulceration. In men, allowing the beard to grow sometimes greatly relieves the throat trouble.

Pains in the chest may be dissipated by liniments, to be mentioned hereafter, such as turpentine, camphorated oil, chloral in soap liniment (℥ss in ℥vj). The mild continued counter-irritant effect obtained by a belladonna or poisonous plaster is also valuable. The substernal tenderness and soreness of the abdominal muscles may be obviated to some extent by lying upon the front of the body and allowing the head to hang over the bed during the morning spell of expectoration and coughing. A flannel bandage constantly worn around the waist sometimes affords a relief not to be obtained by drugs. The sedative effect of the constant galvanic current will not only often relieve the local symptoms, but also affect the general system very favorably.

Hæmoptysis requires rest in bed, ice to the chest (thirty minutes on and fifteen off), and the internal administration of ergot, ipecacuanha, acetate of lead, or gallic acid. Tincture of iron, or Monsel's solution greatly diluted, in urgent cases, is recommended to be used in the hand or steam atomizer; but, as this excites cough, I have never employed it, preferring to keep the patient in as passive and quiet a condition as possible. If the hæmorrhage is serious, ergot or ether given hypodermically may check it, as in post-partum bleeding.

Dyspnœa, or air-hunger, when it indicates an over-accumulation of secretions in the lungs, and especially if emphysema be

present, may be quickly relieved by an emetic like ipecacuanha, which has especial advantages in pulmonary engorgement, or by the yellow sulphate of mercury, or by apomorphia given hypodermatically (gr. $\frac{1}{6}$), when a quick effect is desired. When the breathing capacity of the lungs is greatly reduced by the disease, inhalations of oxygen have proved highly serviceable. When the lungs are choked with catarrhal or inflammatory products that are tenacious and inspissated, the use of ammonium chloride in twenty-grain doses, frequently repeated, or given in smaller dose with the iodide of ammonium or potassium, yields remarkable results. They are commonly given in the compound liquorice mixture, to which the syrup of senega or tincture of ipecacuanha is often added. As the dyspnœa may be due to pleurisy or emphysema, the chest should be examined to determine any physical cause that perhaps may admit of removal. Strapping the chest with adhesive plaster will sometimes afford great relief from pleurodynia.

Congestions of the lungs, occurring suddenly in the course of the disease, require rest, dry cups, and counter-irritation. As they generally precede hæmoptysis, the measures adapted to the latter will often need to be called into requisition. Chronic consolidation of a circumscribed portion of the lung often is benefited by a succession of small blisters, which may be conveniently made by the application of cantharidal collodion. This form of counter-irritation is preferable to the use of croton oil (diluted with an equal amount of oil of sweet almonds) or painting with iodine, although both of these are undoubtedly of service. Mercurial inunction I have tried, but the cases are rare in which it can be used with benefit. Possibly those in which it was attended by good results really possessed a remote history of syphilis. In all forms of chronic bronchial disease, the use of inunctions of coconut oil, walnut oil, sweet oil, lard, or similar substance, will improve the nutrition and relieve the congestion of the mucous lining of the air-passages. In children, cod-liver oil may be thus administered, applying it at night, and covering the chest with cotton-wool or flannel, or an oiling may be made after the morning bath to the whole skin, and the child wrapped up loosely in a blanket for a half-hour or so. In this way a considerable amount may be absorbed.

CIRCULATORY SYSTEM.

Irregular heart.—In a number of cases of incipient lung disease, I have been struck with tendency to attacks of palpitation and irregular overaction of the heart; and I have more than once traced a congestion of the lungs to this cause. I believe that it occurs more frequently in young men than in women, and appears sometimes to be connected with the use of tobacco. In some cases I have noticed an idiosyncrasy with regard to tobacco. Where there is some hypertrophy, the use of the bromide of potassium (especially in combination with a narcotic, such as chloral or morphia, in order to induce sleep) is serviceable. When the heart is weak and the circulation languid, a cardiac tonic like digitalis, quinia, boldo, or viscum album will prove necessary; but veratrum viride will be required if hypertrophy be marked. It is in the condition of failing circulation that a small amount of alcohol in a hot drink is often of great service. I am strongly of the opinion that stimulants, so called, are out of place in a chronic degenerative disorder like this under consideration, and I believe that cases of consumption reported by Flint and others as cured by large quantities of alcoholic liquors really recovered in spite of the heroic doses prescribed rather than on account of them; for we do not forget the fact that in all these cases alcohol is never the sole treatment, but the greatest attention is paid to general hygiene. Alcohol is really contra-indicated in phthisis pulmonalis, as far as the state of the respiratory apparatus is concerned; but small amounts given guardedly, I believe, may yield more than a temporary benefit from their action upon the stomach and the heart. Probably the best (because most lasting) stimulant for these cases is the fluid extract of coca (3ss-j), which promptly exerts a marked effect. A bowl of meat-broth, of *bouillon*, or of hot coffee (containing an egg beaten up with cream), or even a cup of tea, is often much more serviceable to the patient than hot whiskey. When a patient feels chilly, exercise in the open air, on horseback, or walking, will often quickly restore him to warmth when a hot fire and extra clothing fail to make him comfortable. Food and exercise in the fresh air are physiological stimulants to the heart and circulation that deserve the highest appreciation, and this fact is well recognized in the various resorts for the out-of-door treat-

ment of phthisis. Where the heart is weak and irregular, the use of digitalis in combination with quinia and a small amount of opium, in the form so highly praised by Niemeyer (quinia, gr. ij; pulv. digitalis, gr. $\frac{1}{2}$; pulv. opii, gr. $\frac{1}{4}$), given three or four times daily, has stood the test of experience; but in all such cases it is important to bear in mind that uninterrupted rest of seven or eight hours at night is a better general tonic than any remedy in the Pharmacopœia.

Fever.—Quinine is sometimes serviceable in the hectic, or, more properly, septic fever of chronic pulmonary inflammation, but oftener fails. I have, however, more faith in salicin (gr. xx), given at least two hours before the onset, which sometimes acts like a charm, as it greatly reduces the fever, and makes the patient much more comfortable; but salicylic acid I have not used as an antipyretic agent in this disease. It should be the rule that, while the fever is on, the patient should lie down, and not be allowed to sit up until it has passed. As the hectic is symptomatic of chronic inflammation of the lung, and possibly septic poisoning, it admits of palliation rather than cure, unless, indeed, we succeed in ultimately removing the cause. If there is much discomfort, sponging the surface of the body with bay rum or vinegar and water is often practised; either hot or cold sponging may be tried. By reducing the febrile action, the same remedies are prophylactic as regards sweating.

Night-Sweats.—Of all the remedies for the treatment of the exhausting night-sweats of consumption, atropia stands at the head of the list for efficiency. It may be given, as recommended by Prof. Da Costa, in a single dose at bedtime (gr. one-sixtieth to one-eightieth), or in smaller doses through the day, as preferred by Prof. Bartholow. Unfortunately, it greatly increases thirst, and gives the patient a parched throat in the morning, to remedy which its combination with ergot or jaborandi has been recommended.* The aromatic sulphuric acid, in doses of from ten to twenty drops, is also quite efficient; so is the oxide of zinc (gr. ij-ijj in pill), given at bedtime. Muscarine and physostigma have also been used with good results.

* See an article by Prof. Da Costa in *Medical News and Abstract* for August, 1881, on "The Treatment of Night-Sweats," for a discussion of the relative merits of different anhydrotics.

The hypodermatic injection of homatropine (.015 gm.) has recently been highly lauded by Fronmüller,* and the internal administration of ergotine or fluid extract of ergot has lately been urged in several quarters; but all specific medication will be of but temporary benefit, unless due attention is paid to the bed, ventilation, the clothing, and other hygienic points to be considered farther on. I may say, however, that the addition of alum, or alcohol, or sea-salt, to the daily sponge-bath will greatly reduce the tendency to perspiration, which has been well called a "leaky condition of the skin." This condition may be to some extent corrected by sponging the surface with hot water at bedtime.

Diet.—As the source of energy and the supply of nutritive material, the food of the consumptive is of primary importance. Care must be taken to see that it is in a form easy of assimilation, and that it is sufficient in amount. Too often the "sick one's sickly appetite" is satisfied with a cup of tea or the minimum quantity of food. Such invalids rarely ask for food, and therefore require provision to be made by others. On account of the common coexistence of stomach disorder, or gastric catarrh, the same care is required in regard to starchy articles that easily undergo fermentation, as in ordinary dyspepsia. So important is this point considered that Dr. Salisbury has made it the basis of a treatment of consumption, the success of which in many cases cannot be denied: whether its success likewise establishes the truth of his theory of the cause of consumption is another question. It is certain that cases can recover without restriction from starchy food; and it is probable that a diet containing nitrogen in excess may injure the kidneys and liver, or at least interfere with their functions. Where there is a decided tendency to diarrhoea, boiled milk is the best article of food, and a strict milk diet may be temporarily resorted to. Of all the forms of milk where the digestive tract is in a weak and irritable condition, that known as "koumyss," or milk-wine, is of the greatest service, and many consumptives date the beginning of their improvement from its use. Extract of malt, the hypophosphites, the compound syrup of the phosphates of lime, iron, sodium, and potassium (Parrish's chemical food), are

each serviceable as additions to the ordinary food; but the addition of strychnia to the syrup of the phosphates (gr. j to ʒvj) greatly increases its value. Beef-essence, as usually prepared, is simply a nervo-muscular stimulant, but when combined with an egg, as *bouillon*, it is a valuable concentrated form of nourishment. The best way to extract the nutritive juices of the meat is to mince it fine, heat it moderately, and squeeze out the juice in a small wine- or fruit-press (as recommended by Dr. Ely, of Rochester†). Beef-blood, either fresh or in the form known as desiccated blood, excites a natural repugnance in the ordinary mode of administration, but as an enema it offers especial advantages. The method of forced feeding by a tube, as practised by Debove, has attracted much attention, and appears of great value where the laryngeal ulceration has involved the epiglottis to such an extent that swallowing is painful or impossible; but as a general rule the trouble with nutrition is found not so much in the administration of nutritive fluids as in retaining them after they have been swallowed.

It is impossible within my present limits to discuss satisfactorily the diet of consumptives, but I must speak of one article of food upon which I would place the greatest reliance in this disease. I refer to eggs of the farm-yard fowl, given as fresh as possible. The phosphorized yellow fat (*lecithin*) of the yolk of eggs, I am satisfied, is useful for building up nervous tissue, while the albumen replaces the loss by expectoration and hemorrhages. I urge, therefore, upon patients the importance of taking from one to three eggs each day, either lightly boiled, poached, or raw. In the latter form they may be given with coffee (*mélange*), beef-tea, wine, or beer. Cream is also serviceable in consumption, and where it can be taken freely affords a good substitute for cod-liver oil. I will only suggest, in conclusion, that sick persons should not be rigidly restricted to the formal meals, but should have food suited to their digestion at times most agreeable to them. It is sometimes well to give nourishment in the middle of the night, to break the long fast from tea-time to morning.

The *diarrhoea* of these patients may be kept in check by the use of suppositories of belladonna and extract of opium, in

* New York Medical Record, 1882, p. 437; from *Memorabilia*.

† Proceedings New York State Medical Society, 1882.

conjunction with the milk diet referred to above. Ulceration of the colon and rectum is sometimes greatly benefited by injection of nitrate of silver (gr. $\frac{1}{4}$ to $\frac{3}{4}$). If constipation exist, simple enemata containing a few drops of camphor are preferable to the administration of purgatives, but, when required, cascara elixir or granules of podophyllin, alone or with atropia and strychnia, are better than the more violent cathartics. In regard to the presence of anal fistule, if of long duration, the question comes up whether or not it shall be submitted to operative interference. From a surgical stand-point a fistule certainly should be operated upon; from a medical stand-point I would stipulate it should not be healed too quickly, and on this account I would prefer the ligature to the knife. This, I believe, is also the teaching of Prof. Gross.* The old prejudice against closing a long-established drain in a case of chronic disease is not without foundation in fact, and the practice of opening an issue elsewhere in the body, although lately fallen into disrepute, has the experience of past generations of physicians in favor of it, as well as the authority of eminent surgeons like the late Professors Pancoast and Jas. R. Wood to endorse it.

Nervous System.—Among the peculiar nervous symptoms has been noticed a general erethism, with elevation of all the faculties. Consumptives are quick in their mental operations: this has been noticed by popular novelists, who delight in depicting the patient as unusually bright and hopeful instead of being depressed by the bodily weakness. In this condition, the brain tends to wakefulness. Now, almost the first essential to healthy nutrition is a proper amount of sound, uninterrupted sleep. Some of the measures for the relief of sleeplessness will be referred to hereafter, but of all of them the administration of opium is the most efficient and, at the same time, the most to be dreaded: not merely on account of the danger of forming the opium-habit, but for its evil effects upon the cerebral circulation and general nutrition, is it to be shunned whenever possible. Chloral is better, but is still open to some objections; less, perhaps, when given in combination with bromide of ammonium and camphor water, or with cherry-laurel water. The administration of some light

food at bedtime sometimes favors sleep; and lactic or phosphoric acid has also been recommended for this purpose.

The emaciation and debility, in so far as they can be attributable to nervous deficiency, are treated by general measures indicated in the other portions of this paper. I believe, however, that where a tonic is desired for the nervous system, there is none better than strychnia, or nuxvomica, given in combination with the phosphide of zinc (Hammond's pill) or the compound syrup of the phosphates.†

2. REMEDY BAD HYGIENE.

From this hurried review of some of the more urgent calls for symptomatic treatment, where the therapeutics of consumption is too frequently suspended, I pass next to a more important problem, the correction of defective hygienic surroundings; and of the needs of the consumptive in this direction the greatest is pure air.

Ventilation and Fresh Air.—Many cases which have settled down as confirmed invalids cannot bear the thought of fresh air; if they venture out of doors they easily catch cold. Their rooms are so tightly closed day and night that they never get a breath of fresh air except by accident. The evils of this I need not enlarge upon. Great injustice is often done to consumptives by placing them in the crowded ward of a hospital, and, in fact, in the case mentioned at the beginning of this paper, the improvement dated from the time that he was transferred to a more commodious apartment and ordered to spend the most of his time in the open air. When we recall the physiological facts that the lungs are important organs of excretion, and that the presence of a small amount of carbonic acid gas in the inspired air greatly reduces the amount of carbonic acid given off from the blood, and moisture similarly interferes with the delivery of watery vapor from the lungs, the explanation of the dyspnoea in the crippled lungs is obvious. The very nature of the case imperatively demands more oxygen and purer air than in health; and a recognition of this fact lies at the foundation of the rational treatment of consumption. Just here allow me to refer to an illustration that may be regarded as classical. A case of disease cured by a certain regimen is valuable testimony, but

* System of Surgery, Phila., 1879, vol. ii. p. 633.

† When given in solution, strychnia should, on account of its insolubility in ordinary menstrua, be dissolved in a few drops of acetic acid before combining it.

it becomes still more so when it is recorded by the physician-patient who experienced it, and who points to years of successful practice of medicine to witness his means of observation, and brings forward other cases in proof of his opinions. The case I refer to is that of the late Dr. Jos. Parrish, who was well known as one of the leading practitioners in Philadelphia some years ago. Prof. Geo. B. Wood, in his obituary address,* delivered before the College of Physicians, thus alludes to Dr. Parrish's illness: "When about twenty-five years of age, the doctor was affected with a severe and lasting cough, and considered himself in danger of pulmonary consumption, to which he believed that he had a family predisposition, having lost a brother and sister by that complaint. Under a course, however, of vigorous exercise, and from exposure to the air, without the use of medicines, he ultimately surmounted the threatening symptoms. The existence of cicatrices in the upper portion of the lungs, discovered upon post-mortem examination, proves that his apprehensions were well founded, and at the same time affords strong evidence in favor of the plan of treatment which he adopted in his own case, and always strongly advocated." This is well worthy of attention. Dr. Parrish died in the sixty-first year of his age, after having been free from pulmonary disease for a third of a century. During this period he contributed several articles on pulmonary consumption to the *North American Medical and Surgical Journal*, in which he reported a number of cases benefited in a similar way. His opinions are well expressed in a paper entitled "Observations on Pulmonary Consumption," in which he says,† "Before dismissing the subject, I would repeat my conviction that in the management of pulmonary consumption no remedies are so efficient as fresh air and active and continued exercise; and that as a general rule all medical treatment of an energetic character had better be dispensed with. There can be no doubt that the physician may occasionally interpose palliative remedies with advantage, and symptoms often occur in the progress of the disease which require his interference. . . . But," he continues, "taking cases as they usually occur, and considering the various modes of practice which have been adopted

and are at present in use, my decided impression is that if the patients affected with phthisis were universally left to themselves, with no other medical advice than to exercise themselves freely in the open air, the general result would be a longer continuance of life and a greater number of recoveries." This is strong testimony; but I must say that I think the therapeutics of the disease has considerably improved since these words were written. I would like to dwell further upon the point, but time forbids; I must therefore refer those interested in the subject to the series of these papers in vols. viii., ix., and x. of the journal above mentioned. I cannot leave this topic without calling attention to the fact that Dr. Parrish was a reformer in his day, and an earnest advocate of a more rational plan of treatment of pulmonary consumption than then prevailed; further experience and extended observation enable us now to say that his views were founded on correct principles, and they must, therefore, ultimately prevail. This tribute, at least, is due to his memory.

Attention to the State of the Skin.—The physiological facts that in some of the lower animals the function of the lungs is supplemented or even substituted by the skin, and that recent observation teaches that in man an equivalent of one-twentieth of the respiration by the lungs is carried on through the common integument, the skin, plainly point to the importance of keeping the skin in healthy condition, and avoiding sudden or severe changes of temperature. The clothing requires more attention than I can here bestow upon it. It should be seasonable, comfortable, and not heavy. The body-linen should be frequently changed, especially if there is much perspiration. I have been surprised, even in private practice, by learning of the number of persons who habitually sleep in the underclothing worn during the day, instead of hanging the suit up to ventilate and dry during the night, as common sense should teach them to do. Such persons get their skin into a very sensitive and relaxed condition; they are easily made to perspire, and are easily chilled, and catch cold on the slightest exposure. They sweat at night, and feel chilly under a pile of blankets. What I insist upon is a well-ventilated room to sleep in, night-clothing that is aired during the day, and frictions to the skin each morning with a dry towel or a flesh-brush.

* Am. Jour. of Med. Sci., vol. xxvi. p. 253.

† Loc. cit., vol. viii. p. 274 (1829).

Faithful rubbing will do more to keep the skin in good condition than frequent ablutions, and of the two the former is to be preferred: consumptives cannot bear frequent sluicing with water, especially in winter, on account of their feeble powers of reaction.

Sleeping Accommodations.—A word concerning the bed seems not out of place. A large number of patients who complain of night-sweating I find are in the habit of sleeping upon feather beds. As these feather beds are handed down in a family as heir-looms, and in the course of time collect a considerable amount of organic matter, especially where children are born and bred, and as they are with difficulty ventilated, and are always hot and interfere with the exhalations from the body, it has struck me that they are the worst kind of bed for a consumptive. I recommend a fresh corn-husk mattress covered with a layer of good curled hair as in every way more wholesome, sweet, and comfortable; but nothing can be better than a good hair and spring mattress.

From what has been said about the importance of undisturbed rest and of a well-ventilated apartment it may be inferred that I think it desirable that the patient should sleep alone. This may be difficult to accomplish, in some cases impossible, but the object to be attained is worthy of the attempt, and it should be insisted upon, even if merely to escape well-meant but ill-timed attentions. I recall one case in which I learned, to my disgust, that a consumptive husband was often wakened from sleep by his anxious but too officious wife, just to ask, "How do you feel?" She cannot wake him now. One incidental but very great advantage is gained by separating the sick from the well, quite apart from any hypothetical danger of communicating the disease: it is this, that the temptation to sexual indulgence is greatly reduced, a form of excess that is particularly obnoxious to the consumptive. The loss of vitality from coitus falls heavily upon the husband, but the sick wife is by no means exempt from evil consequences. I now remember a lady suffering with incipient phthisis, who was subject to unaccountable attacks of congestion of the lungs; she finally told me that whenever her husband had intercourse with her she would be certain to spit blood the next morning. The fact that a consumptive woman is unfit to

pass through the ordeal of child-bearing with safety to herself or the child needs only to be mentioned as an additional reason for forbearance and continence.

I had intended to speak of the hygiene of occupation, of dwellings, of personal habits, and of the necessity for regular and temperate living, but I have already far exceeded my limits, and must merely refer to them as potent factors for health or disease worthy of and requiring due consideration. I take leave of this part of my subject, the importance of which you recognize, by repeating the appropriate words of the eminent Dr. Gregory in discussing this subject: "*Quamvis multum hic pendet a prima corporis fabricatione, et varietatibus quas ætas facit, multum quoque pendet a vitæ genere, et victu quo homines utuntur.*"*

3. CORRECT THE DYSCRASIA.

In discussing this point I am fully conscious of the unsatisfactory character of this term "*dyscrasia*,"—a relic of the old humoral pathology—that I have employed, and yet I am not aware of any other that will express my meaning so well. I would merely say that *dyscrasia* is here used as synonymous with a peculiar general disorder and tendency to recurring special disorder. Denominate it as we may, the fact remains that "all flesh is not the same flesh" in surgical parlance; for while one flesh heals readily and promptly, another shows very imperfect attempts at repair, and gives out granulations of feeble vitality that lead to prolonged suppuration. This tendency to chronic suppuration is one indication of the presence of what has been termed the tubercular or scrofulous *dyscrasia*. When lesions occur in the air-passages or lungs in such cases, the phenomena are those of the several forms of chronic consumption, varying somewhat in the anatomico-histological site of the lesions, perhaps differing but slightly in their clinical course. This tendency may be inherited or it may be acquired. In either case I think that it can be demonstrated that it may often be overcome by persevering and systematic treatment. The principal means to be adopted are (1) a healthy residence, (2) change of habits, especially from a sedentary to an out-door life, (3) massage, (4) electricity, and (5) the use of certain remedies.

Want of time again forbids adequate

* *Conspectus Theoreticæ Medicinæ*, London, p. 717.

detailed discussion of these means. Inasmuch as this disease does not exist in certain parts of the world, notably in some mountain-regions, it is very evident that a removal of the patient from a residence in a neighborhood rife with consumption to one where it does not naturally occur is a change that theoretically must be beneficial, and experience amply confirms this view. Such resorts are generally mountain-regions in a temperate zone. The consideration of the advantages of different climates I must defer until another occasion. I would only stipulate that they should be moderately elevated, the climate cool and not too changeable, and free from high winds, and that the air shall be pure and dry. Bennett's well-known contributions upon this topic are familiar to you. I would also speak of a recent paper by Marcet in the *Edinburgh Medical Journal* (vol. xxvi.), "On the Riviera, Madeira, the Canary Islands, and Davos, with Reference to their Climate for Consumptive Invalids." A very good *résumé* of this important question is contained in a recent book by J. H. Tyndale,* which only came under my notice when this paper had been nearly completed. Toner's "Dictionary of Elevations," and Walton's "Comparison of European and American Climatic Resorts," furnish useful information with regard to the elevation, etc. I would especially refer to an article by a Philadelphian, Dr. J. J. Leveck, in the *Philadelphia Medical Times*, on the Adirondack Region,† and to a communication made by Dr. C. T. Williams‡ to the International Medical Congress of 1881, with regard to Davos-platz especially. I would say, however, that altitude does not express the sole requisite; some mountain-resorts are notoriously damp, while it is well known that the consumptive needs *dry* as well as pure air, and if he can secure a sanitarium where pine woods lend their ozone he will have an additional advantage. The meteorological changes should not be too sudden, nor the winds very high, for the consumptive invalid, but a cool climate upon an elevated plateau protected by a range of foot-hills will afford a new lease of life. Of such resorts, those of Colorado are the best known in this country; but there are some in the Alleghanies that

deserve mention. Of these, Kane, in Northwestern Pennsylvania, with an elevation of over 2200 feet, has already some reputation.

Drs. Parrish and Wood highly recommended Schooley's Mountain, in New Jersey; but there are many sites in the Alleghanies that I think offer superior advantages.

The climate of St. Paul, Minnesota, is well adapted to the treatment of incipient phthisis, in young adults especially; and Colorado also enjoys a reputation as well earned as the Davosplatz, in the Alps; but, like the Himalayas and the Andes, these famous health resorts are in many cases too far from home for an invalid to visit without too much fatigue. The dry, rarefied air produces quickening not only of respiration and circulation but also of digestion and assimilation; so that where the change is well borne a decided improvement in nutrition and bodily weight is soon noticed. It should be mentioned that if there is any fever present the case is rendered worse by the change, and, as pointed out in the discussion by Dr. Alan Herbert at the last International Medical Congress, if there are organic changes in the blood-vessels, heart, or kidneys, the patient had better not venture into an elevated region.

The sea-shore, although a powerful stimulant to nutrition, is, on account of the density and dampness of the atmosphere, admissible only, if at all, in the earliest stages of the disease.

When patients are unable to leave home, the active exercises recommended by Dr. Jos. Parrish will offer the best substitute; and a change from a sedentary to an active occupation has more than once averted a threatened consumption and established health and vigor in its place. I invariably instruct my patients threatened with consumption to carry on pulmonary gymnastics by freely inflating the chest from ten to thirty times each morning, breathing habitually through the nose. Singing is one of the best methods of lung gymnastics.

Massage and electricity I cannot stop to discuss; they are well known as agents capable of powerfully influencing nutrition; the latter has been employed in the form of general electrization by Prof. Bartholow,§ with good results.

* "Home and Climatic Treatment of Pulmonary Consumption," New York, 1882.

† Vol. xi. p. 813 of this journal.

‡ Transactions, vol. ii. p. 164.

§ Medical Electricity, Philadelphia, 1881, p. 26.

With regard to remedies, although not acknowledging any panacea, yet the iodides appear to approach more closely to a specific influence than any other remedy we possess. Especially do I commend the iodide of iron, in the form of Blancard's pills, which have shown remarkable power over obstinate consolidation of the lung. The iodides of potassium and ammonium are also valuable, not only for their alterative influence, but also for their effects upon the swollen epithelium of the bronchial tubes and air-cells, and for their power of liquefying morbid products and secretions and favoring their removal. The lacto-phosphate of lime and cod-liver oil are very serviceable, but should be given separately, the former in the syrup of lacto-phosphate of lime, and the latter alone or in extemporaneous emulsion with the extract of malt. The benzoates have been tried and found wanting. Possibly they are in danger of falling now into undeserved neglect; they certainly possess certain advantages used in the form of spray, but appear to be less efficient than carbolic acid.

In consumption respiratory stimulants may be needed, and Prof. Bartholow highly commends the use of small doses of atropia with morphia, given three times a day, for several months in succession. Arsenic has also been recommended, but it seems to have its place in the very early stages, where it may be employed to avert or remove a certain vulnerability of the lungs that renders their owner more susceptible to the inroads of disease. Gurjun oil and many other remedies of greater or less repute must be passed without notice, in order to bring my remarks to a close.

Let me, in conclusion, formulate the views I have endeavored to convey, in order that they may be more readily discussed.

Pulmonary consumption is to a large extent a preventable disease, and, as the diathesis may be acquired by exposure and unhealthy modes of life, it may, on the other hand, be remedied by proper attention to hygiene.

Consumptive patients can in many cases be cured by strict attention to hygiene: where medical aid is required, it should be conducted on the principle advocated by Chomel, "of treating the patient and not the disease."

Among agencies useful in the treatment of consumption, drugs occupy a secondary

position, and the principal reliance is to be placed upon exercise in the open air, adapted to the patient's strength, with due attention to the skin, proper food and clothing, and the use of well-ventilated sleeping-apartments.

A therapeutic method based upon the pathology of the disease and the ascertained action of remedies (experimental and empirical), and which cures patients, is a rational treatment of pulmonary consumption.

THE ORIGIN OF THE BLOOD-CORPUSCLES.

BY ISAAH RYDER, M.D.,

Toronto.

THE origin of the blood-corpuscles has long engaged the attention of medical scientists, and the theories that have been advanced are numerous. Nevertheless, there is a doubt as to their origin, and this fact affords the most conclusive evidence that they are still beyond the comprehension of this class of investigators in their primary formation. Some think they are first found in the liver, and others that they find their origin in the spleen, while the majority of the general profession have concluded that they are formed during the passage from the villi to the chyli receptaculum. And a professional gentleman who stands high as a lecturer on physiology expressed the opinion recently that he did not think we should be able to solve the mystery.

One of the most puzzling features in the case is that the white or *chyle* corpuscles are uniform in size, while in the general circulation the red ones vary to no inconsiderable extent.

In the fall of 1877 I made a quantity of non-fermented wine after a recipe used by Mr. Frank Wright, putting it up in bottles and hermetically sealing it. On this occasion I put up, as an experiment, a quantity without sealing, in order to test the value of the grapes used. Some three years after this, an experienced wine-manufacturer was spending a few days at my place, and we tested the fermented wine for the first time, and found it to contain opaque atoms usually found in wine before being clarified, which did not obtain in the non-fermented specimen. It is claimed by some that these atoms are scales of *acetate*

of *potassium*; but my investigations have led me to conclude that this is a mistake.

It is a common thing to hold the open hand before a lamp and notice the translucency of the fingers. This translucent condition only obtains while the blood is alive, as the hand of a deceased person is wholly opaque. The non-fermented wine when held in the glass close to a lamp presents the same beautiful appearance that is observed in the fingers of a living person, while the *unclarified* fermented wine does not permit the light to pass. These opaque atoms float till broken up by agitation, when, in the course of a day or so, they settle, forming a sediment half an inch in thickness in the rim of the bottom of the bottle.

These phenomena afforded food for reflection, and I asked myself why these atoms did not settle as sediment till after agitation, and finally concluded that they must be the cells known to exist in the fruit, which had been forced out by pressure in obtaining the wine, and which retained the life peculiar to the fruit-cells, the same as obtains with canned fruit. During the process of fermentation these die, and continue to float till broken up by agitation, when they settle as stated. The opacity of these cells appears to be analogous to the dead corpuscles in every respect, and I concluded that this was the origin of the cells that eventually become the corpuscles that are to enter into the structures of our bodies.

This view is sustained by noticing what takes place in making oaten porridge. A small quantity of meal is put into a given amount of water. At first it looks like anything but material for a meal for a hungry person, but after it has "swollen" sufficiently the water has passed into the dry cells and almost wholly disappeared. From this it appears that the cells in our cereals are similar to those in the fruits, excepting that in the latter they are filled with water free from earthy and saline substances, while in the former they are deprived of it by evaporation in the process of ripening.

This is a wise provision, as it enables us to store up a supply of food free from liability to rot or freeze, as in the case of fruits and vegetables. What I have described is not new to any one who has had opportunity to judge in such matters, and, were it not for previously-conceived opinions, would

lead almost any one to a conclusion similar to that to which I was myself compelled. The idea that the process of digestion is a chemical one, in which the solvent properties of the gastric juice are employed to reduce the food to the minutest atoms, is evidently a misleading one. This thought, coupled with a generally accepted one that these finely-communited atoms are again reconstructed into the blood-corpuscles, has prevented us from seeing what is quite evident when we disabuse our minds of all preconceived notions.

It is well known that all organic substances, when submitted to chemical laws, are resolved back into the inorganic world of unvitalized matter. Decay is but tardy oxidation, and combustion is rapid chemical decomposition. Chemical action always deprives the cells of life. It is equally evident that no chemist has ever succeeded in producing a living organism.

An eminent scientist and teacher of this city once expressed the opinion that blood-corpuscles might be produced by a chemical process when we had made sufficient scientific progress. This illustrates how largely the idea of chemical action in the vital economy obtains with chemists; and when we remember that the lectures on chemistry in a medical school teach similar views, it is not difficult to see how far this sentiment obtains in medical circles.

Vital laws organize, while chemistry breaks down organisms. They stand diametrically opposed to each other. And it is evident that we require a new scientific department, that of *vital science*. At least, we must separate these, so that we shall be able to discriminate more clearly between these opposing forces. Synthetic chemistry has been our hope, but it can deal only with inorganic matter. It has been asserted that in 1844 some celebrated French or German chemist succeeded in producing living germs; but the experiment has never been repeated, and none suppose that it is possible. This would be a crowning achievement, and would certainly never have been allowed to lapse, or be forgotten, if it had ever been accomplished. I think we have hoped in vain, and must acknowledge that we have failed.

A broader view of the operations of nature leads us irresistibly to the conclusion that God has reserved to himself the power of endowing matter with life. This wonderful feat obtains only in the domain

of natural laws. The evident delusion of spontaneous combustion has not been sustained, though it was accepted by many. There must be a primordial germ, endowed with life from the hand of the Creator, which, under favorable circumstances, may develop into one of its own predestinated class. If the account of the creation as given in the book of Genesis be accepted as at all worthy of credence, it lends its influence in sustaining this view.

The living cells which we recognize as the blood-corpuscles must of necessity find their primary source in the realm of vegetable growth. This is the first part in the process of elevating the "dust" from which man was made into that wonderfully interesting being. The cells are specially formed in the production of the fruits and grains, and receive and enhance vital endowment over the cells of the green herbs which were given to the beasts of the field. We partake of them as food, and thus receive an increased fund of life from the vital fluids which are derived from the arterial current, under the process of intestinal digestion, and are conveyed to the circulation as white or *chyle* corpuscles.

Before they are received into the circulation they are uniform in size and general appearance. The difficulty in understanding how the red corpuscles vary in size in the vital current has been solved by a Boston scientist, F. G. Fairfield, who has recently shown that the primary cells are enclosed in a structureless membrane supposed to be derived from the albumen of the blood. He detected them associating together, as described, in odd numbers of three, five, nine, and fifteen. This accounts for the variation in size that has been noticed by all who have examined the vital fluid.

This appears to demonstrate that it is in the aerated corpuscles that "innervation" takes place; so that we should possibly be correct in assuming that the individual cells which are to form the special classes of tissue, as the bones, muscles, nerves, etc., are gregarious, choosing their own kinds, as with animals and men.

23 LISGAR STREET, TORONTO, May 24, 1882.

POST-PARTUM HEMORRHAGE.—Two cases of hemorrhage after delivery, cured by injection of the tincture of the chloride of iron (diluted, 1 to 4), are reported by Herbert Thompson in the *British Medical Journal* for May 13, 1882.

PRE-NATAL CHATON.

BY JAMES L. TYSON, M.D.

THIS pathological condition, the result of spasm in the horizontal fibres, or "hour-glass contraction," at any given point from the cervix to the fundus uteri, is, happily, of rather rare occurrence in the early stages of parturition. Two such cases, occurring in the same patient, have been presented to my observation within the past three years, and I am induced to record them from my note-book by having my attention called to a case recently reported in a New York medical journal, where a most peculiar measure, it struck me, was inaugurated,—the operation of version, and subsequently craniotomy, resulting, as might be supposed from the whole history of the case, in the death of the mother from exhaustion. If the irregular contraction be fully apprehended by the accoucheur, with a vertex presentation and proper dilatation of the os, cervix, and external tissues, and the forceps can be securely applied, why thrust the hand beyond the constriction, after administering chloroform, which secures a relaxation of the spasm in the circular uterine fibres, and effect version? What possible benefit could result from so harsh a procedure? Should the pubic arch be contracted and the pelvic outlet be insufficient, the foetus dead and the head too large to pass, it might well be conceived that craniotomy, then and there, could alone save the life of the mother, and she be spared the time and exhaustion incident to a double process, which I am unable to regard, under the circumstances, as other than unwise and unnecessary.

I had attended a lady in four confinements, neither of which offered any unusual or untoward event. On the fifth occasion I was called in the night, and found her in the following condition: the external parts were yielding and dilatable, the os and cervix were fully dilated,—the liquor amnii having escaped,—the occiput to the left acetabulum, with powerful but brief uterine contractions, which appeared to exercise no influence on the progress of the labor. Making an exploring examination on the absence of a pain, I found, at a point high up, embracing the lower part of the abdomen and femoral articulations of the foetus, a firm constricting band, which on the return of a pain caused

her much suffering. She declined ether and the forceps, having always expressed a horror of both, but at length, after being in labor several hours, with no appreciable advance, she consented to the latter, as she felt satisfied that the child was "held back" and could not be born without artificial means. These I applied, and after almost desperate efforts succeeded in overcoming the resistance by degrees, and in pulling the fœtus through the constriction, about one-third from the fundus uteri. The child, a boy, though nearly psychoragic, was eventually restored, and both mother and child ultimately did well. The birth was, of course, attended with considerable pain, mainly in the constricted part, which would have been greatly mitigated had she taken an anæsthetic.

After a lapse of some two years, at the next parturient period there was found to exist a condition similar to that above recited, except that the spasmodic constriction appeared to embrace the body of the fœtus below the shoulders, as high up as the superior strait in the pelvis, corresponding to a line drawn from the two cristæ ilii, a little less than midway of the body of the uterus. It may be observed that the labor here encountered an earlier check than on the previous occasion, nor had the liquor amnii come away. On the advent of a pain, the sharp, lancing stricture was terribly severe, the lady describing the sensation to be like that of a vice, or of a cord tightly drawn over delicate and sensitive points, which she referred to the umbilicus, and on each side, and at the back. The labor made no progress, though hours had elapsed since its inception. She was a good deal exhausted, and not at all averse now to have me apply the forceps, but this I found to be impracticable. So soon as one blade was introduced and I was about to adjust the other, a pain would follow, and the head, already high up in the pelvis, would suddenly disappear, retracted by the constricting power of the horizontal fibres, which caused it to nearly turn on its axis, leaving the part just occupied by it an open space or cavity. This repeatedly occurred, and the position was as often carefully verified by the touch. It was the middle of the night. I had no one to consult with or aid me but an ignorant, stupid, so-called nurse, frightened out of what little sense was left to her, and two friends of the lady herself, who would have been much

more useful had they been absent. In view of the condition of things, and realizing, in an old pun, the *superior strait* in which I was placed, I at once determined to resort to the combined influence of anæsthesia and oxytocia, whether my patient consented or not. I found her amenable to reason, and immediately gave her $\frac{3}{4}$ ss vin. ergotæ, and caused her to inhale a mixture of one to three parts respectively of chloroform and ether. Their beneficent effects were soon apparent, and but little plaint was uttered from that time. The spasm of the uterus slowly relaxed, and the cutting pains in the parts involved gradually ceased, while the expulsive efforts, induced by the ergot, went on so regularly and harmoniously that in about one hour and a half she was delivered of a large, healthy boy, and no trouble ensued, the secundines following on slight traction of the funis. At no time was she entirely under the influence of the anæsthetic, nor was it desirable that she should be, nor did I intermit an occasional teaspoonful of vin. ergotæ.

It may not be out of place here to remark that I am no advocate for the indiscriminate and frequent employment of forceps in obstetrics, and venture to observe, from what I have seen in hospital and city and country practice for many years, that more permanent injuries have been inflicted upon the mother than benefits have resulted from their use, especially in the last decade, and language is inadequate to express my repugnance to, and condemnation of, their present reckless abuse. First employed by a *quack* and the secret retained for years, he is only one who most frequently—and too often, it is feared, for effect, or, as sometimes avowed, "to save time"—resorts to them. That conditions arise where their employment becomes not only imperative but indispensable to preserve the life of the mother and child, or to abbreviate protracted suffering, is a foregone conclusion, and were their use reserved for such we should hear less of their abuse, and the pernicious consequences, either immediately or remotely, thereby often entailed. The trite but true adage is always applicable,—*"a meddling midwife is bad."*

DR. WILLIAM R. D. BLACKWOOD has been elected Neurologist and Medical Electrician to the Presbyterian Hospital.

CASE OF LUMBAR ABSCESS FOLLOWING TYPHOID ULCERATION AND PERFORATION OF THE BOWEL.

BY C. W. DE LANNOY, M.D.,

Chester, Pa.

MR. E. E., æt. 45, applied to me some five months prior to his death, when I ascertained the following:

Thirty years ago, while in New Orleans, he was treated for a right psoas abscess which opened spontaneously at the inner half of the right groin. After a year or more the discharge entirely ceased. During the subsequent twenty-eight years his health was, without exception, most excellent, so that he was able to follow the occupation of master-bricklayer and building-contractor. About one year and a half previous to calling upon me, he had a severe illness, which his physician called typhoid fever. As he stated, however, that solid food was not withdrawn from his diet, this fact, in face of the usual dietetic measures peculiar to the treatment of specific typhoid, throws some doubt upon his statement as to the diagnosis. I might here mention that he resided within a stone's throw of the Delaware River marshes, where malarial affections are the common complaint, and that typhoid in this locality is not infrequently preceded by unmistakable evidences of periodical disease. The patient claimed never to have thoroughly recovered from this fever, the general health remaining poor, while he became subject to deep-seated pain in the right lumbar region. He had also a flatulent dyspepsia, and diarrhœa alternating with constipation. Physical examination revealed great emaciation, with distended stomach, rapid and feeble cardiac pulsation,—all conditions peculiar to exhaustive structural disease. In spite of the pain referred by him to the lumbar region, repeated examinations of the urine only afforded evidences of general prostration, but nothing attributable to structural disease of the kidneys. During the time, or shortly after, that the bowels would be constipated, some tumefaction was always manifest in the right loin,—sufficient swelling, in fact, to contrast visibly with the dimensions of the left lumbar region; this tumor, of the consistence of moderately soft dough, could be reduced by pressure, and reduction was shortly followed by relief from pain and evacuation of the contents of the bowel. At a time when there were loose evacuations, a slushing noise could be elicited by making pressure with the palm of the hand and suddenly removing it.

Taking into consideration the above facts, ascertained from physical examination, adding thereto the history of previous lumbar abscess, and, possibly, typhoid fever with

perforation, the diagnosis becomes evident,—namely, that the destructive process during suppuration in the lumbar region had subsided, leaving a post-abdominal cavity, into which, during the course of typhoid fever, an ulcer of the ascending colon had perforated, establishing an orifice of communication, through which the contents of the bowel found free egress. The low asthenic condition of the patient precluded all possible operative procedure, and in the way of treatment little more than dietetic, restorative, or tonic measures were attempted or even proposed. I would state that great care in diet, the selection of food leaving little or no fecal residuum, giving articles digested in the stomach or duodenum, proved a potent factor in the relief of pain and regulation of the bowels: in fact, it was through a most deplorable indiscretion in diet (the eating of a large piece of watermelon and some pears) that my patient provoked a severe attack of diarrhœa, which soon became dysenteric. Sixteen-grain doses of ipecacuanha, twice repeated, corrected the bloody character of the stools, but death, preceded by collapse, was the result.

A post-mortem examination was not only granted, but had been frequently requested by the patient previous to his death. The greatest possible emaciation existed, a condition which had increased to an alarming extent during the fatal dysenteric attack. Opening the abdomen by a crucial incision (for I intended reaching the cavity in the back through the cavity of the bowel), the omentum was found adherent to the entire ascending colon, and along the line of Poupart's ligament the adhesions were most firm at the ileo-cæcal junction, and a fibrinous adhesive membrane was connected with the vermiform appendix. Dissecting off the omentum, and exposing the ascending colon, its posterior wall was found to be flattened out and closely applied to the posterior wall of the abdomen: at least this condition existed as high up as half-way between the hepatic flexure and the cæcal terminus. Making an incision on the front wall of the cæcum, and exposing its cavity, an opening was found, situated about on a level with the ileo-cæcal valve in the posterior wall of the bowel, measuring three-quarters of an inch in diameter. This opening led into a sac three by four inches in diameter, with sinuses radiating in different directions from its circumference.

Sinus No. 1, direction downward, outward, and forward, reaching to within one inch below the anterior superior spinous process of the ilium, and bifurcating at that point, the internal bifurcation leading to a post-peritoneal cavity, occupying almost the entire right true pelvis; the external bifurcation passing downward and inward about two inches, on a line with Poupart's ligament, where the fundus of its *cul-de-sac* corresponded with the integumentary cicatrix,

referred to as the point of opening of the psoas abscess.

Sinus No. 2 extended upward until reaching a level with the crest of the ilium, then passing deeply downward and backward it included in its passage the transverse process of the fifth lumbar vertebra. The internal surface of the ileum was devoid of periosteum, and slightly caried. A branch sinus extended up along the right side of the spine to a point opposite the eleventh rib: the latter as well as the twelfth was badly necrosed and crumbled under the fingers.

The entire cavity above indicated was lined with a shining membrane, and contained more of the same loose fecal matter characteristic of his late illness. Dr. O. P. Rex, who had charge of this patient while an inmate of Jefferson Medical Hospital, may be able to furnish additional points of interest connected with the history of this curious case.

CHESTER, DELAWARE CO., PA., May 15, 1882.

SOME IMPROVED EAR-INSTRUMENTS.

Read before the Philadelphia County Medical Society, March 15, 1882,

BY GEORGE C. HARLAN, M.D.

STRONG caustics, as chromic, nitric, or chloro-acetic acid, may be applied almost painlessly to small polypi or granulations in the ear if the application is so limited that the sound tissue is not touched. To accomplish this, or to perform any other operation in the meatus or tympanum, it is, of course, necessary to have a good view of the parts and one hand free. I have not found the forehead mirror entirely satisfactory for this purpose, as the slightest movement of the patient's head, or of the operator's, as he turns to pick up an instrument, obscures the view and necessitates a readjustment. The mirror which I now exhibit is held upon the thumb by means of a spring ring, while the auricle is managed with the second and third fingers, and the speculum is held in place by the forefinger. The ear, the speculum, and the mirror are thus easily controlled with one hand, while the other hand and the head remain free. I have also had a spring clip placed on the back of the mirror to hold a ten-inch convex glass. Some assistance of this kind is a necessity for those of us whose near point is not what it used to be, and all operators

will find it an advantage to have minute objects in the meatus and tympanum considerably magnified. This mirror can be obtained of Mr. Kolbe. These two other instruments seem almost too trifling to exhibit, but I have found them of some convenience in practice. The ordinary ear trough, used in syringing, answers the purpose perfectly well, if it happens to fit the ear; otherwise, the water is likely to escape upon the patient's neck: in this one, the wire loop by which it hangs upon the auricle, instead of being fixed, passes through small tubes, and can be accurately adjusted to any ear. It can be procured at Blair's drug-store or of Mr. Gemrig.

This insufflator is adapted to the application of the various powders now so extensively used in aural practice. It is simply the well-known throat insufflator with the curved end straightened and fixed in a soft rubber cone, which fits the opening of the meatus.

TRANSLATIONS.

RESORPTION OF SEQUESTRA.—At a meeting of the Paris Société de Chirurgie, held May 17, 1882 (*La France Médicale*), M. Lannelongue presented the result of a series of experiments which he had made upon the resorption of sequestra. A fragment of a human humerus was embedded partly in the medullary canal of the tibia of a rabbit, and partly in the osseous structure; in the other tibia a similar plug of ivory was inserted for comparison. At the end of two or three days the animal was killed, and the tissue-changes carefully noted. Changes were observed both in the bone and the ivory, but more in the bone. The microscopic appearances were particularly interesting. "That which remains of the bony plug is covered by numerous embryonic elements, which bury themselves in a series of depressions formed at the surface. All the cavities into which it is channelled, the Haversian canals themselves, are full of embryonic elements, and the young elements form at the level of the compact portion of the tibia a complete cement (*soudure*) between the living bone and the experimental sequestrum."

From these experiments it results that a part of a dead bone introduced into a living bone can be absorbed and replaced by

an osseous tissue of new formation. This fact had not been previously demonstrated experimentally.

In addition, M. Lannelongue had attempted to produce this absorption in other tissues, and in serous cavities, but without any result. In order for the experiments to succeed, it is essential that the sequestrum be not bathed in pus, and to prevent this it is necessary to employ all the means of the antiseptic system to prevent suppuration. From a number of experiments, in some of which the sequestrum entirely disappeared, the author formulated the following conclusions:

1. The absorption of sequestra is a fact which is demonstrated by experiment.

2. The suppuration in the sequestral capsule around the sequestrum itself is an obstacle to this absorption.

3. The absorption of dead bone takes place more promptly and more easily than that of ivory; moreover, it is followed by the formation of new bone. Therefore ivory should be preferred in resections where it is desired to maintain the fragments by one or the other of these means.

4. The bone for this purpose should be carefully disinfected before being used.

TREATMENT OF COMPLICATED OPHTHALMIA NEONATORUM BY THE COLD DOUCHE.—The simple form of babies' sore eyes gets well almost always with simple treatment, but not so the graver forms complicated with swelling, corneal ulceration with or without perforation, and protrusion of the iris. These corneal ulcers have a tendency to extend deeply, and, in spite of the most careful treatment, to lead to perforation, and finally to atrophy, of the eye. The best means of preventing this accident, and of curing the inflammation, is, in the opinion of Dr. O. Paulsen, of Hamburg, the cold douche (*Berlin. Klin. Wochen.*, May 29). He recommends that a bucket of cold water be placed at a slight elevation, and a long rubber tube (5–6 mm. in diameter) used as a siphon to bring the douche to the desired spot. The child is held upon the left arm of the nurse, and with the right hand the head is held fixed, so that the water can descend with some force upon the affected eye. The first application of the douche should last only a few seconds, later it may be extended to two or three minutes; it is to be used at first every quarter of an hour, and later every half-hour, or less often, according to the

gravity of the case; but it is better to use it too often than too seldom. The effect upon the tense swollen lids is very soon manifested, the secretion also lessens, and any incipient ulcers are relieved from the pressure and the pus, and as soon as this is accomplished the chief danger is over. Still, the greatest care must be kept up, and every half-hour at least the eyes should be looked after. It is of use to add chloride of sodium to the douche, a few handfulls to the pail of water. The temperature at the beginning should be from 12°–15° R. (59°–66° F.); later it can be reduced according to circumstances. With this treatment, the use of nitrate of silver, in mitigated or pure stick, properly applied, must not be omitted; but the greatest care must be taken to prevent its coming in contact with the cornea.

THE TOXIC EFFECTS OF JAPANESE STAR-ANISE (*Illicium Religiosum*, Siebold).—As a result of the eating of some seeds of the Japanese star-anise, several children were poisoned in Tokio, Japan. Frothing at the mouth, profuse vomiting, and cramps were observed in all, and three died within two hours. A. Langgaard, in *Virchow's Archiv* (lxxxvi. 222), reports these cases, and also a number of experiments to determine the physiological action of the drug. All parts of the plant were poisonous to frogs. From an alkaline extract of the root the same effects were produced as by the seeds. The principal symptoms were cramps, which in both warm- and cold-blooded animals were of long duration, and, according to the author, were due to a direct effect upon the centres in the medulla oblongata. Previous to the cramps there was a stage of decrease of reflex irritability, as a result of irritation of the inhibitory apparatus. In frogs, after the cramps had lasted for a time, a period of rest and exhaustion ensued, but later, with increased reflex irritability of the spinal cord, the cramps again appeared.

Small doses in guinea-pigs lowered the pulse, from irritation of both the central end or origin of the vagus and its intracardial terminations; the irritability of the trunk of the vagus was not reduced until later. Large doses killed by producing cardiac paralysis, small ones by paralysis of respiration. Only the minimal lethal doses were counteracted by chloral hydrate; in the large doses it was ineffectual. The author claims that the same results are pro-

duced by the genuine star-anise (*Illicium anisatum*, *Lurcero*), though it is less active. —*Centralblatt für Med. Wissenschaften*, No. 21.

A NEW CHOLAGOGUE—THE EFFECTS OF TOLUOL-DIAMINE UPON THE ANIMAL BODY.—Stadelmann, from a series of experiments upon dogs, first confirmed the fact noticed already by Schmiedeberg, that this agent was capable of causing decided and lasting jaundice, and next proceeded to determine its cause. His observations made upon animals, both with biliary fistula and without, were carefully conducted, and demonstrated that in general, within twenty-four hours after the administration of the remedy by the stomach, hypodermically, or intravenous injection (the first being slower than the others, as a rule), bilirubin and biliary acids appeared in the urine, but hæmoglobinuria occurred in only one out of between thirty and forty cases. The effects of the remedy remained only for a few days. The author believes that the results are to be explained by a resorption icterus, due either to duodenal catarrh or some acute disorder of the capillary circulation in the liver: the blood-pressure, however, in other cases was not altered, at least within the first three hours after giving a full dose (3 grm.) of the remedy. Where the biliary fistule existed (it had been *in situ* for eighteen months, and the dog was well), in both cases polycholie first occurred, under the influence of which the icterus began; later there was a marked thickening of the bile, which apparently afforded an opportunity for reabsorption of the bile. It is noteworthy that in cases with biliary fistule a much greater quantity of the remedy was required than in others, and, besides, that the jaundice rapidly disappeared. —*Zeitschr. für Exp. Pathol.*, etc., xiv. p. 231; *Centralblatt für Med. Wissenschaften*, No. 21.

THE VITALITY OF TRICHINÆ IN LARD AND OTHER SALTED FOODS.—It is generally believed that trichinæ lose their vitality after two or three months in salted food; but this has been refuted by the experience of many of those who have eaten salt meats without previous cooking. M. Fourmont has recently made some interesting experiments with lard which microscopic examination had shown to be infested with trichinæ. He took a small portion and enveloped it completely with salt, and after keeping it for twelve months

(which, added to the time since it was first salted in its preparation for the market, amounted to about fifteen months) he washed out the salt, and fed the lard to some mice: the trichinæ were so little affected by the salt that they promptly developed, and soon increased to such extent as to cause fatal infection.

Salting, therefore, does not destroy trichinæ, at least within a period extending beyond the time within which the articles of food are usually kept. Moreover, the salting has the power to a certain extent to reduce the effects of heat; for experiment has shown that it is very difficult in ordinary cooking to raise the interior of a piece of meat to the temperature of 100° (C.), even after several hours' boiling or roasting. —*Revue Médicale*, No. 5.

CÆSAREAN SECTION FOLLOWED BY AB- LATION OF THE FUNDUS UTERI (PORRO'S OPERATION).—M. Guichard reported to the Société de Chirurgie, Paris (session of May 3-10, 1882), the following case. The patient, 25 years of age, measured only 1.08m. (42½ inches) in height; she presented a marked kyphosis occupying the lower part of the dorsal region. Arriving at full term, the uterus revolved downward and forward, and formed a large tumor like a bag descending almost to the knees. Digital examination revealed a narrowing, obliquely oval, of the superior strait; but the principal obstacle was seated at the level of the inferior strait, which measured in its transverse diameter only 4 centimetres. Cæsarean section was performed, and a child extracted, which survived. Immediately afterwards he excised part of the uterus, and the pedicle was included in the suture of the abdominal wall. The rules of the antiseptic method were rigorously carried out. On the second day a slight hemorrhage required the application of an elastic ligature. The patient died the next day, with symptoms of peritonitis. The skeleton of the woman was presented, which was remarkable for its vertebral curve and the form of the pelvic basin. —*Bulletin Général de Thérapeutique*, May 30.

THE application of carbolic acid to prevent the pitting of smallpox, by cutting open the vesicles and applying the lotion directly at the height of the vesicular stage to each vesicle, has been tried by Mr. Makuna, with good results. —*Royal Medical and Surgical Society*, May 9, 1882.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JULY 15, 1882.

EDITORIAL.

THE OLD STORY.

EVER since the *Philadelphia Medical Times* came under its present editorial management it has consistently sought, by every method in its power, to expose the atrocity of the American system of medical education, and the need of legislation upon the subject,—to reiterate the abundantly-proven truth that the profession cannot regulate itself unless its representative body or some central organization be clothed by law with power. The principle has at last been recognized in this and other States, that the interference of the law with the profession is necessary; but, unfortunately, instead of the control over the profession having been given to some representative bodies, it has been handed to irresponsible medical faculties or trustees, whose interest it is to throw wide open the doors of entrance, and, by fair means or foul, to increase the crowd who pay toll to these faculties as they pass in to what is represented to them as fair meadows yielding fruitful harvests of fees to the most indolent cultivators, but what many of them find very barren pastures.

Legislation has not done enough. The editorial war must still go on until it is recognized that medical colleges should be educational institutions merely, not peddlers of the right to vex, worry, and destroy a long-suffering community that has so far endured with stupid patience, but which, like the beast of Balaam, may finally find a voice.

We hail with delight every new birth of a medical college, as a further addition to the burden which will only be laid aside when its weight grows so heavy that it can no longer be borne. It may not be known

to all our readers, but the enterprising firm which publishes the *Medical Gazette* also sells to the world a printed list of physicians' addresses. The following letter was recently received by this firm, and we give it in full as chronicling a new birth, and as an example of what material is required in this land of freedom for the construction of an institution which gives the right to practise medicine:

"COLLEGE OF PHYSICIANS AND SURGEONS,
"JOPLIN, MO., 5, 28, 1882.

"GENTS,—Please send price list of *Doctors, and Druggist. Names*, by states as I want to mail several thousand Annual Catalogues to the Profession, all over the U. S. A. and Canada. I am starting an embryonic Pioneer-Medical College and I must, of necessity, noisè it around to the world to make it pay me. An early reply will greatly oblige your Respectfully, &c.
J. C. PETIT, M.D., Dean."

DEATH FROM CHLOROFORM.

FROM South Carolina comes a report of a death occurring under particularly painful circumstances during chloroform administration. We gather from the daily papers the few facts that we have in regard to the case, which in its features merely repeats the well-known formula of trifling surgical operation, administration of chloroform, sudden failure of circulation, ineffectual attempts at restoration, and death. As we have not the medical report before us, we refrain from comment; but we may say in general terms in regard to the practice of chloroform administration, that the deaths are not in proportion with the gravity of the operation to be performed; they occur soon after the administration has begun, and treatment is generally ineffectual, the patient being almost or quite dead before the attendants realize that there is anything amiss. Patients have been restored, however, by inversion of the body, by flagellation of chest and nates, by inhalation of nitrite of amyl, and by intravenous injections of ammonia;* and chloroform should not be administered without having these means

* Dr. Neild's case, *Medical Times and Gazette*, 1871, p. 616.

of restoration conveniently at hand, nor by any one who is not able and ready to use them at the first symptom of cardiac failure. Indeed, chloroform should not be administered at all except under the sign of the skull and cross-bones, to give the patient fair notice of his danger.

IN the annual address of the President of the State Medical Society, delivered by Dr. John S. Carpenter, of Pottsville, the need of revision of the laws regulating the insane, and of a systematic examination and report on the condition of the various lunatic asylums in the State, was strongly urged. The necessary legislation was afterwards obtained, and a commission recently appointed by Governor Hoyt to investigate and report on the laws of the commonwealth relating to insane persons, especially the criminal insane. The following gentlemen have accepted appointment: L. Clark Davis, R. C. McMurtrie, Dr. S. Weir Mitchell, General John F. Hartranft, Dr. J. T. Rothrock, George S. Harrison, of Philadelphia, and Dr. Joseph A. Reed, of Alleghany.

LEADING ARTICLES.

THE DIAGNOSTIC VALUE OF ELECTRICITY IN CASES OF MUSCULAR PARALYSIS.

FOR many years electricity has been considered our best means for testing the condition of muscles. In the beginning no distinction was made between the faradic and the galvanic current; later, each was specially investigated with the view of determining its diagnostic value.

Marshall Hall first drew our attention to the fact that a muscle deprived of the influence of the spinal cord loses its electric irritability and electro-muscular contractility, and since that time we have learned that in destructive diseases of the spinal cord, when these have reached a certain stage, in which the part of the cord affected is deprived of its function, electro-muscular contractility is diminished or lost. But this is not the case with all muscles;

those which are provided with nerves that come from still healthy parts of the cord not only retain their normal irritability to the electric current, but in reality evince increased electric irritability and more energetic contractions. By this reaction alone we may be able to locate a lesion in the cord more definitely, and note if the morbid process advances transversely or if it is ascending or descending. But it would be wrong to conclude that diminished electro-muscular contractility is always a sure indication of spinal lesion. Such decrease appears, too, and very rapidly, if the nerve itself is injured, or if the muscular tissue of a paralyzed part is in a pathological condition, or as the result of certain poisons, as opium, lead, or of the rheumatic or other blood poisons, which, by diminishing the vitality and strength of nerves, muscles, or nerve-centres, cause also a decrease in their electric irritability. In cases like those last mentioned, however, this diminution is only temporary, not permanent, as in spinal lesions, and the employment of the battery for a few days will develop a decided increase in electro-muscular contractility. It is therefore wise in all cases of paralysis, before forming any conclusion as to the diagnosis of a case,—speaking now alone of the diagnostic value of electricity,—to make use of the latter for a short time, and to await any possible alterations in the reaction. Then there are cases of spinal paraplegia and of diminished muscular power in connection with special lesions, as, for instance, locomotor ataxia, in which electro-muscular contractility is apparently normal. We might say that the less the large motor cells in the anterior gray cornua are suffering from the morbid process, and the less the antero-lateral columns participate in it, the less is the normal reaction to electrical influence disturbed, while the same law holds good *vice versa*.

We will first see in what cases of paralysis electro-muscular contractility continues normal. To these belong, generally speaking, all cases of cerebral origin. The paralyzed member may even respond to the electric irritation with stronger contractions than the sound members if exposed to a current of equal intensity. Where this is the case, the investigations of Althaus and others have demonstrated that the paralysis has its origin in a cerebral lesion of irritative character.

The above remarks have reference to the faradic current only. A galvanic current may give the same or totally different results. The muscles of a paralyzed part may respond actively to a galvanic current and not at all to a faradic. This has been observed in traumatic nerve-lesions (Erb, Eulenburg, Ziemssen, etc.), and also in cases of lead-palsy. While we do not know as yet the actual value of this difference for diagnostic purposes, the so-called reaction of degeneration, as specially studied by Erb and Ziemssen, seems to be very important, and we will give therefore a short *résumé* of the observations made by these authors on traumatic injuries of peripheral nerves. For explanation we mention the following: An. O. C. means anode-opening-contraction,—i.e., the contraction that ensues when the circuit is opened with the anode; An. Cl. C., anode-closure-contraction; and Ka., kathode. Normally, the contraction taking place when the circuit is closed with the kathode should be stronger than the one ensuing when the circuit is closed with the anode, while the opposite should happen at the opening, so that a normal reaction could be expressed by the following formula:

Ka. Cl. C. > An. Cl. C., and An. O. C. > Ka. O. C.

Erb and Ziemssen made the following observations on injured nerves:

1. In the *nerve*, after a short time, from two to three days after the commencement of the paralysis, a continuous and steady fall of faradic and galvanic irritability could be noted; a total loss by the seventh to twelfth day; then, with the gradual regeneration, the irritability slowly returned, but only after reacquired mobility of the part.

2. The *muscles* exhibit a different response to the faradic than to the galvanic current. Faradic irritability diminishes gradually till it is totally lost; but the muscles react differently to the galvanic current; they show an increase for An. Cl. C., and also for Ka. O. C., and of such a kind that the law of contraction appears to be reversed: An. Cl. C. > Ka. Cl. C., and Ka. O. C. > An. O. C. With the gradually increasing degeneration this increased irritability disappears again in such a way that successive An. O. C., Ka. O. C., Ka. Cl. C., and An. Cl. C. at last totally cease; galvanic irritability, therefore, also finally is lost. With the returning regeneration, the galvanic irritability

returns in the same manner as the faradic. Hermann explains these different reactions to the two kinds of electrical current in this way: the molecules are influenced by the continuously working action of the galvanic current, but not by the short interruptions of the induced current. The peculiar action of young nerve-fibres, which, as is well known, conduct the motor impulses, but not electrical currents, is explained by the anatomical researches of Erb, according to which the motor impulses travel along the axis-cylinder, while the electrical current is conducted along the white substance of Schwann, which regenerates later than the axis-cylinder, which, in lesions interrupting the continuity of nerve-structure, is the first to rebuild again. Even if this reaction of degeneration does not always show itself with the same degree of precision, it is undoubtedly a valuable means of differential diagnosis between central and peripheral paralyses. Then there is a different result if we interrupt the galvanic current; and here again changes are noted according to slow or rapid interruption. We know that in certain cases of facial palsy due to exposure to cold, or in other local paralyses having the same origin, and also in lead-palsy, the muscles affected react as little to the rapidly interrupted galvanic current as to the faradic; but if the galvanic current be interrupted *slowly*, the palsied muscles will exhibit a far greater electric irritability than those of the healthy side. This only tends to prove what we at other places frequently have taken occasion to say, that the view is undoubtedly correct which was expressed first by H. C. Wood, that for diagnostic as well as for therapeutical purposes there is only this difference between the faradic and the galvanic current: the interruption. If we interrupt a galvanic current with the same rapidity with which usually the hammer is set in motion in instruments having no provision made for retarding the interruptions, we will get no other results from it than we do by using the faradic current.

In cases like those mentioned last, the muscles are primarily affected, and the application of a slowly interrupted galvanic current generally meets with success. In all cases of paralysis it is well to note the difference in electro-muscular contractility, according to the application of the slowly or the rapidly interrupted current.

Whenever we wish to test the electric reaction of a muscle, it is well to begin with a weak current, and we place the moistened sponge-electrodes on the muscle or group of muscles to be examined, always comparing the result gained with that on the healthy side. Some difference will be noted accordingly as one of the electrodes is placed exactly where the main motor nerve for that muscle is situated; and to find these motor points easily, special tables have been prepared by Erb, Ziemssen, and Wood, which points, though they do not possess any definite clinical value, should always be selected for diagnostic purposes, as they respond to the entrance of the motor nerve into the muscle, and experience has shown that the muscle is best acted upon from these points.

If a muscle is forced to contract by the electric stimulus, the contraction is felt, and the electro-muscular sensibility increases with the strength of the contraction. Increased electro-muscular contractility goes, therefore, hand in hand, at least as a rule, with increased electro-muscular sensibility. But the latter may exist alone, as we have almost invariably noted in cases of myalgia. Then the relation between diminished electro-muscular contractility and sensibility may be disturbed, as is evidenced, for instance, by the very apparent loss of this sensibility to the current in cases of hysterical paralysis. Generally speaking, the electric reaction of the skin, as elicited so well by the metallic brush, coincides with the reaction of the muscles beneath, the stronger or weaker the last, the more or less sensitive the first.

In conclusion we will mention three laws with reference to the electro-muscular contractility of muscles, laws of which one might say, *regulæ quæ non excipiantur*.

a. If a muscle does not respond to a rapidly interrupted current of sufficient strength, we are not entitled to base our prognosis upon this fact.

b. If a muscle does not respond to a slowly interrupted, powerful galvanic current, that muscle will never regain its function, except in cases of traumatic injuries of motor nerves where there is hope that the interruption in the continuity of the nerve-structure may be remedied by regeneration of the nerve.

c. The electric irritability which a paralyzed muscle exhibits in the beginning is no certain indication *quoad vitam* (of the

muscle): we can only base our prognosis upon the irritability which the muscle develops after a regular course of electric treatment of about one week's duration.

While electricity is invaluable in cases of paralysis for diagnostic purposes, massage is far superior to it as a remedy.

HUGO ENGEL, M.D.

507 FRANKLIN STREET, PHILADELPHIA.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CLINICAL meeting of the Society was held at the hall of the Society, Philadelphia, March 15, 1882.

FRACTURES OF THE LOWER END OF THE RADIUS TREATED SO AS TO PRESERVE PERFECT USE OF THE HANDS AND FINGERS.

Dr. John B. Roberts presented three cases of fracture of the lower end of the radius, in which perfect use of the hands and fingers had been preserved by proper treatment. He called attention to the surgical anatomy of the injury, and especially to the fact that Barton's fracture—that is, fracture of the posterior edge of the base of the radius—probably never occurs. The ordinary fracture is a transverse break in the bone, one-third or one-half inch above the joint. This may be complicated by lines of comminution extending through the lower fragment into the joint. These points have been especially insisted on by Dr. Levis. The treatment adopted was erroneous, not only from the general misunderstanding as to the nature of the injury, but because the splint used was incapable of fulfilling even the theoretical indications. Bond's splint is still much used, but is certainly unsuited, because the lower surface of the radius is curved, and not straight, as is the splint. The practice of throwing the hand to the ulnar side is also useless in the attempt to prevent deformity, as the manœuvre merely rolls the carpus in its socket, and has no action on the displaced lower fragment. The proper treatment is first to reduce the fracture, which can generally be easily done by flexion of the wrist and pressure upon the lower fragment, and then to retain it by some splint like Dr. Levis's moulded metal splint. Generally the fragment, if comminution does not exist, will remain in place without much difficulty when once adjusted. In Dr. Roberts's opinion, better results would often be attained if the subsequent treatment consisted in merely carrying the arm in a sling, than from the use of the Bond's splint in the ordinary way, without a pad to correspond with the curved radius. It is no uncommon thing to see these fractures treated in such a manner

that, after the cure, the ulnar eminence is on a level with the palmar surface, because the flat Bond's splint has been applied to the arm and hand. As the lower fragment is by the force of the injury thrown upward and backward on the dorsal surface of the upper fragment, impaction may take place, and then more difficulty is experienced in reduction; but such reduction is absolutely necessary to prevent deformity and stiffness of fingers from the extensor tendons becoming involved in the callus.

The general details of the fractures and modes of treatment were explained by black-board diagrams, after which the three patients were presented for examination.

Dr. Roberts said that two of the patients had each sustained a fracture of one wrist, but that the cure was so good, regarding both anatomical accuracy of adjustment and perfect mobility of joints, that he doubted whether the injured wrist could be detected by all the members of the Society present. He therefore would not mention which arm was injured, but leave each examiner to make his own diagnosis. The third patient was an imbecile old woman who had fallen from a second-story window to a roof, and thence into the yard of her residence. Both radiuses were broken, and it was believed that comminution had occurred. Reduction was effected by flexion and pressure, and the same splints used as in the other cases,—namely, Levis's moulded metal splints. The mental condition of the patient interfered with treatment, for she continually pulled off the bandages and splints; and yet perfect mobility of all the joints was obtained, though considerable deformity from prominence of the ulnus existed. In these three cases, two of which were of quite recent occurrence and the temporary callus therefore probably not yet entirely absorbed, the splint had been worn for three or four weeks; but during the entire time of treatment free motion of the fingers was allowed, and was possible because primary reduction of the lower fragment gave no opportunity for callus and displaced bone to interfere with the tendons.

Dr. Packard thought the cases presented by Dr. Roberts of great interest, and the results obtained in them extremely good. Among the specimens there was one which was almost unique, being a detachment of the styloid process by itself. Another showed extremely well one way in which comminution of the lower fragment is sometimes induced, the upper fragment in a Colles's fracture being driven into the lower so as to *burst* it into two or more pieces. In this way are produced the "starred" fractures, of which two very good specimens exist in the Warren Museum in Boston.

He believed that impaction was the rule in cases of transverse fracture of the radius near its lower end, and several of the specimens shown illustrated it. This view, which was

held by Callender (St. Bartholomew's Hospital Reports, 1865), is of much importance in the matter of treatment, since it explains in part the extreme difficulty of reduction sometimes met with, the other principal cause of this difficulty being the tension of the ligamentous structures insisted upon by Pilcher.

Upon careful examination of the normal forearm and hand, it will be found that in front, just above the wrist, there is a prominence marking the lower extremity of the radius, the anterior face of which bone presents a decided concavity. Below this, again, there is the much larger swell of the ball of the thumb. For both these, allowance must be made in fitting a splint in cases of Colles's fracture. A perfect splint would represent an exact mould of the normal parts; but this, of course, cannot be made. Levis's tin splint, shown by Dr. Roberts, answers a very good purpose.

In the treatment of these cases the first essential is the perfect reduction of the fracture, as to the ease of which he thought Dr. Roberts had spoken somewhat too confidently. Sometimes it is indeed very easy, but oftener it is difficult, and cases occur in which it is impossible. The way to accomplish it is not by extension nor adduction, but by careful, gentle, and patient manipulation, with anæsthesia if necessary. The obstacles have been mentioned above.

After reduction, the retention is seldom difficult, but, in his opinion, it would never be safe to let the forearm and hand simply lie in a sling, as the leverage would be too great. He had, however, used a mere block, carved to suit the normal anterior face of the bone, and held in place by adhesive plaster, with the best results. The block was covered first with canton flannel.

Bond's splint, as commonly used, Dr. Packard thought a most inefficient appliance and a fruitful source of deformity. He had seen it employed in an unreduced fracture, the splint being altogether too large, and a pad carefully placed to maintain the interosseous space, which had never been interfered with at all. By effecting reduction and placing the hand and forearm on a well-shaped splint (in this instance that of Coover, of Harrisburg), a really perfect cure was accomplished. He thought it of the utmost importance first to insure reduction, and then to maintain it by any apparatus that would secure that object.

Prof. Henry H. Smith said that two points mentioned by Dr. Roberts had not been sufficiently adhered to in the discussion: first, the existence of such an injury as that known as Barton's fracture, and, second, its treatment by the use of a straight splint or by "Bond's splint." As to the first point, he thought the literature of the subject had not been consulted, and Dr. Barton's original paper would be found in the *Medical Examiner* for 1837;

as to the second, Dr. Smith had seen Dr. Barton make excellent cures by using a straight splint. The hand should always be inclined to the ulnar side to correct the excessive action of the extensor muscles of the metacarpal bone of the thumb (extensor ossis metacarpi pollicis). In using either a straight or Bond's splint, the tendency of the wrist to drop down must be resisted by means of a graduated compress placed in front of the wrist. The "Bond splint" was dangerous without such a compress, and Bond, in describing its uses, had pointed out the importance of a compress in applying the splint. Dr. Roberts's results in the cases shown were very creditable to him, and were the best cures Dr. Smith had seen; but he could not agree with him that a sling alone would be sufficient to treat any case, as the weight of the hand would always be a cause of displacement.

Dr. Schapringher inquired if one of the dried specimens presented did not show that it was of importance to have the hand turned to the ulnar side. It seemed to him that in this particular case a better result might have been attained. He occasionally had used, in the treatment of these fractures, Bond's splint with wooden pads, placing one to the radial and a thinner one to the ulnar side. He had shown these to Dr. Roberts.

Dr. Addinell Hewson said that Dr. Barton's claim lay in the fact that he had distinguished a fracture of the lower end of the radius from a dislocation, but did not intend to confuse this fracture with that described by Colles, of Dublin. Dr. Barton's idea was that the carpus was drawn up between the fragments of the radius, and caused deformity; but both he and Bond always said that the position in treatment must be half-way between pronation and supination, and with the hand thrown up by a compress and over to the ulnar side. Bond intended to attain this with his splint by the block there in its oblique position.

Dr. Roberts, in closing the discussion, said that his remarks were for the purpose of calling attention to the true character of this kind of fracture, and that what he had said in reference to Bond's splint was applicable to many other forms. If the profession will recognize that in most cases of these fractures the entire articular surface of the bone is separated from the shaft and displaced upward and backward, and not merely a corner or edge, as Barton taught, then the case can be properly treated by a skilful surgeon with almost any splint, or, indeed, even without one, although a splint is usually to be preferred. If a wooden pad corresponding to the radial curve is put upon the Bond splint, the latter will answer; but in its ordinary condition it is no better suited to fracture of the lower end of the radius than to fracture of the lower end of the fibula. Impaction sometimes occurs in these cases, and then, if necessary, anæsthesia should be resorted to

in the reduction; but he did not usually employ it, as the pain was only momentary. He thought that sometimes surgeons committed mistakes in neglecting refracture after deformity had occurred from improper previous treatment. He had seen recently reported a successful case of refracture done in New York City by Dr. Little, six weeks after the receipt of injury, but had not himself tested it. He was quite familiar with Dr. Barton's original article, but did not believe that the deformity after such fractures had anything to do with the action of the extensors of the thumb. It was the immediate result of the force causing the fracture, which takes place by a cross-breaking strain upon the bone above the attachment of the carpal ligaments. Fractures in this situation were formerly badly treated, because surgeons did not know the pathology of the condition. Now that the surgical anatomy of the injury is well understood, cures with perfect usefulness of the hand and fingers can be usually obtained. This is attested by the patients presented, which were not picked cases, but were all that had been treated by the speaker within two years. One was certainly an unfavorable one, on account of the degree of injury, the age of the woman, and her interference with treatment. Dr. Roberts laid stress upon the fact that the advances in this department of surgery were in no wise due to him, but to Levis and others in America and in Europe.

Dr. John V. Shoemaker called the attention of the Society to the method of treating syphilis by hypodermic injections. The method was introduced to the notice of the profession by Scarenzio, of Pavia, who used calomel in his injections. His attention was called to it by Dr. Julius Kaemmerer, who had used it with very flattering results, and had instructed his pupils Drs. L. Wolff and Edwin Rosenthal in its use. Dr. Shoemaker had been using it for over three and one-half years on one hundred and thirteen patients, with the best results. These patients he had gathered from his private practice, the American Hospital for Skin Diseases, and the Dispensary; and he had brought to the meeting three patients whom he is treating in this way, and on one of them—a case of pustular syphiloderma—he will show its application. He uses as an injection a solution of corrosive sublimate of one grain to one fluidounce of water. He formerly used a solution of six grains of the sublimate to one ounce of water; but, as the hypodermic syringe has divisions into tenths, he now uses the first solution, so as to divide the doses more quickly and accurately. In making the injection, he usually introduces it in the infrascapular and sacral regions, as they are the least sensitive and are well supplied with cellular tissue. He seizes a fold of the integument with the forefinger and thumb of the left hand, and with the right hand drives the needle deep down

into the cellular tissue and forces the contents of the syringe into the tissues; then, withdrawing it by a rotatory motion, he places the finger of the left hand over the puncture, and with the other fingers distributes the contents through the surrounding tissue. He further said that in his practice he had never had any cases of abscesses, which he thinks is due to the precautions he uses. Those who have abscesses do not push the needle in deep enough, or use a rusty needle, which may cause irritation, or inject so that they deposit the solution in a stratum of the cuticle in which the absorbent vessels are wanting, and thus cause the inflammation and abscesses. He also uses the precaution to tell the patients to provide themselves with their own needles, thereby preventing any possible contagion; and he always prefers a gold needle, as it is the only metal not acted upon by the solution of corrosive sublimate. In conclusion, he spoke of the erroneous opinion held by physicians in regard to what they termed albuminate of mercury. He maintained there was no such compound: what we termed albuminate was an albuminous solution of mercury. He said the reason why corrosive sublimate did not act properly when administered by the stomach was that it had formed an insoluble albuminous mixture of mercury, and did not remain long enough in the body to become absorbed. The result of his experience in the one hundred and thirteen cases showed that it required almost six grains of the corrosive chloride of mercury hypodermically to complete the cure in an ordinary case. He also exhibited (on invitation) a case of *tubercular lupus* of the face, and showed the mode of treatment as pursued by him at the American Hospital for Skin Diseases. He scraped the parts till they were denuded of their scales, and then applied the solution of ethylate of soda to the surfaces.

Dr. Schapringer said he used the hypodermic injection of corrosive sublimate for some time, and had never had abscess following its use, perhaps because he always took the precaution to wipe the needle carefully after charging the syringe, especially at the point, so as to make sure to remove the drop of fluid that may protrude at the muzzle. In giving hypodermic injections, he very often took up a fold of the shirt with a fold of skin, and pierced both with the instrument, thus avoiding the necessity of the entire removal of the clothing, a matter that was of much importance with female patients.

A CONVERSATIONAL meeting of the Society was held at the hall of the Society, Philadelphia, March 22, 1882.

TREATMENT OF CONSUMPTION.

Dr. Hamilton said that in a practice of fifty years he had met but seven or eight cases of tuberculosis which had recovered, and even

in some of these he thought the diagnosis was doubtful. In two of the cases, however, the diagnosis was certain, and in these he thought the recovery was due more to the general hygienic and supportive measures than to the medicines used. Whiskey and cod-liver oil were the means he most relied upon to prolong life. He had attended Dr. Joseph Parrish's lectures, and had confidence in his system. He had found exercise in the open air to be the most beneficial agent. A case in illustration was that of a peddler, who, by open-air life, had probably prolonged his existence at least two years beyond that which he would have secured under other conditions. The late Dr. Coates was also a believer in this system. Exercise was beneficial, especially as it increased the appetite, and thus conduced to the taking and digestion of more food, which was a special indication in this wasting disease. No medicines should be given that lessen appetite and impair digestion; yet palliatives may be required. Dr. Parrish had related to his classes the case of a young man who spent six months in active camp-life,—which Dr. Parrish himself thought too severe,—but who returned so improved that the physician did not recognize him. He was apparently nearly well. Pure air and nourishing food were the most useful agents in this usually chronic disease.

Dr. Seiler said that many points in Dr. Woodbury's paper were highly instructive, but some required further development. Dr. Woodbury advises active exercise, but Dr. Seiler's experience was that patients could not take it. He always advised patients to exercise until they *begin* to feel tired. Moderate exercise produces appetite, but very active exercise does not. In reference to fresh air, an open question was, Is night air different from day air in action in these cases? He had found that factory-operatives, who could exercise in the open air only at night, progressed as favorably as those who exercised during the day; but the hour just after sundown was not safe: the lower stratum of air was too moist; and, for the same reason, the sea-shore in summer was not suitable. Cough was a symptom which could not be treated properly unless its source was located. It has been shown that in the respiratory tract there are certain cough-centres,—viz., the interarytenoid space, the bifurcation of the trachea, and the posterior tracheal wall. When these points are irritated, cough results; but irritation of lung-tissue itself does not cause cough. The remedies, therefore, should be applied to the laryngeal, bronchial, or tracheal irritation, as the case may be. Dr. Seiler was opposed to opiates and sedatives, and preferred inhalations and counter-irritation. Night-sweats were best treated by sponging the entire skin with whiskey, either with or without addition of alum, night and morning. This treatment always benefited

and often cured the trouble. Patients should have all the food they can take, and alcohol is indicated because it retards tissue-change. Cod-liver oil is rather a food than a medicine, and may be given with alcohol. It must, however, be of the best quality. Inferior oil causes nausea and eructations. Dr. Seiler had used enemata of desiccated blood, with good results, and in two cases had used it in solution in salt-and-water as an inhalation with the atomizer. These were cases of ulceration of the larynx, with great dysphagia, and the treatment was pursued only until the patient got able to swallow. Feather beds had been condemned by the lecturer, but other beds were no better when not properly ventilated. Feathers were extensively used in Europe, but no special liability to consumption was traced to them. A great point in reference to the general hygiene was to keep dust out of the lungs. This could be very well done by putting a sponge over the nostrils. Much cough would be prevented by this. He thought that the disease was not a dyscrasia, but want of nutrition. Hence, if we give enough food and favorable sanitary conditions, cure is possible.

Dr. Vogler asked for information as to the results obtained by any of the members present in regard to the inhalation of carbolic acid. He had seen a notice of its use based upon the idea that the disease was due to germs. He had used it in one case, previously treated by usual remedies, without much benefit, in which the character of the disease was indicated by the symptoms and by the fact that four members of the family had already died of it. Calvert's A No. 1 (gilt label) carbolic acid was given in solution twice a day by means of the atomizer, about two grains being dissolved in four drachms of distilled or rose-water, and flavored with two or three drops of teaberry oil. The case rapidly improved; cough and night-sweats disappeared. The sanitary surroundings, however, were very good. He had several cases now in the German Hospital under the same treatment, and these were doing well. No irritation seemed to be caused by it.

Dr. Eskridge said he agreed with Dr. Woodbury in most points referred to in his paper, but doubted that many cases of consumption were permanently cured. He had never seen a case that had not ultimately died of some pulmonary trouble. The disease always left, at best, a special susceptibility to lung-troubles. In controlling cough he had used carbolic acid and iodine after the manner recommended by Dr. Coghill, of the Brompton Hospital, London. The following combination was used: creasote and carbolic acid, each $\text{f}\text{3i}$; compound tincture of iodine, $\text{f}\text{3ii}$; and alcohol, $\text{f}\text{3iss}$. This he had employed in nearly fifty cases. It is good for almost any variety of the disease, but most effective in the chronic. It diminishes the quantity of

expectoration, allays cough, and lessens or entirely destroys the factor of breath. It is preferably used in a respirator; an atomizer will not answer so well. A simple respirator may be extemporized by taking a short cylindrical box (mustard-plaster box or one made of stiff paper), with a perforated cap, and a hole in each side about its middle. A piece of absorbent cotton containing ten or fifteen drops of the solution is placed in the box, near the perforated end, and a string or wire is passed through the side-holes to prevent the cotton coming in contact with the mouth. The patient, with his mouth to the free end of the box, is directed to inhale with mouth open, and exhale with mouth shut. The treatment is at first irritating, but, if persisted in, will become soothing and agreeable. This is the only method Dr. Eskridge now uses to allay cough in chronic phthisis, but in the acute variety it does not answer so well. The chest-pains were due to pleuritic inflammation, and were relieved by counter-irritation. He rarely used anodynes. Alcohol was, in his opinion, when the patient is well selected, the sheet-anchor for general treatment. He believed that we could ill afford to dispense with it when there is but little elevation of the body-heat, but it was of little use in the acute disease. In the treatment of night-sweats, he had taken advantage of the fact that the sweating did not begin until the latter part of the night, and by the administration of brandy ($\text{f}\text{3i}$ or $\text{f}\text{3ii}$) about 2 A.M. had frequently succeeded in preventing the sweating. At times he had added digitalis to the alcohol. Another plan was sponging the body with alcohol and some astringent; but this sometimes failed. For irritable stomach, Fowler's solution, half to one drop three times daily, administered before eating, had given good results. He believed in a predisposition to the disease. All may be susceptible to it, but some become consumptive more easily than others. Doubtless many persons do not get consumption because they are carried off by other diseases. Building up the system is the main object of treatment, and for this iodine, nux vomica, and cinchona are the best medicines.

Dr. Blackwood said he believed more in hygienic than in therapeutic measures in the treatment of consumption. The stomach should be spared rough usage as much as possible. He objected to feather beds because they yielded too easily, and allowed the body to sink in, so as to prevent proper change of air on the surface of the skin; also because feather beds were always very dirty. A woven wire mattress was much better, and where much emaciation existed, a gum blanket covered with a cotton sheet might be used. He had tried static electricity in controlling cough, and also as a means of improving general nutrition,—but in the latter use had no success,—and would like Dr. Woodbury and

others to state their experience with the method. In reference to the advisability of treating anal fistule in consumptives, Dr. Blackwood said he never had any belief in pathological safety-valves. Anal fistule was very depressing, and he always operated for it, and found it to heal well and patients be benefited.

Dr. Benjamin Lee said he agreed with the lecturer that consumption was not specific, but was due to imperfect or depraved nutrition. Scrofulosis or struma was a similar condition. The existence of tubercle in bone had never been demonstrated, and was denied by some of the first pathologists. When miliary tubercle is not present in the lungs, the disease is always simply one of mal-nutrition, and the remedy is appropriate food; but if there is no demand for food, by reason of the failure of assimilation and absorption, it is useless to put it into the stomach. Hence exercise had naturally been suggested as a means of increasing the activity of the absorbents. Active exercise, however, is often depressing, and we must seek some substitute. This we find in massage and passive movements. For night-sweats the Turkish bath is good. It substitutes a healthy day-sweat, which is under control, for an unhealthy, uncontrolled, and very exhausting process. The danger of taking cold need not be feared. The condition of the skin-glands was much improved by it. Inunction, practised after the bath, is a protective against changes of temperature and an aid to nutrition. Dr. Woodbury was right in reference to nutrient suppositories. Dr. Lee had treated a case of obscure nervous disease during the past winter, in which the stomach was quite unable to retain food, and for six weeks life was supported by enemata of yolk of egg, milk, brandy, and beef-tea, when the rectum became so irritable that it would not retain the enemata. Suppositories of gelatin, with Liebig's extract of beef, were used, about five a day for four weeks, by which time the stomach had become more tolerant of food.

Dr. Woodbury, in thanking the gentlemen who had discussed the paper, expressed his gratification at the interest shown in the subject, and also his pleasure in seeing that, instead of discussing vexed questions of pathology, the members had taken the better course and contributed their own observations and experience. He fully agreed with the views expressed by the last speaker, and had referred to the use of massage, inunctions, and bathing, but had been obliged to omit portions in reading, so as not to go over the prescribed time. Petroleum ointment, however, on account of the difficulty of oxidation, he considered of less value than cod-liver oil, cocoanut-oil, or lard-oil. The Turkish bath may be of service, on account of the free diaphoresis which it causes; but it should not be too frequently repeated. The functions of the

skin being physiologically identical with those of the lung, and, to a certain extent, supplementary in their action, we may depurate the blood through the skin when the lungs are crippled. This justifies the stress laid in the paper upon the importance of a proper care of the skin in consumption. In reply to Dr. Blackwood, he said that his authority for the statement attributed to Prof. Bartholow, regarding the improvement in nutrition following the use of static electricity, was Dr. Bartholow's book, in which he speaks of several cases of phthisis that were greatly benefited by the electric bath. Referring to the remarks upon alcohol, he regretted that he could not agree with Dr. Eskridge as to its value in phthisis. Nothing in clinical medicine is more certain than that the continued use of alcohol, even in moderate doses, stimulates the development of connective tissue all over the body; nothing in pathology more evident than the fact that alcohol is a prolific cause of pulmonary disease; nothing in toxicology better established than the observation of the action exerted by alcohol upon the respiratory centre. For these reasons it is especially dangerous in pulmonary consumption, as it is adding a respiratory poison to the exhausting effect of the cough and the already increased respirations upon the medulla oblongata. The remarks upon predisposition established nothing but what had been claimed in the paper,—a constitutional weakness with a local expression, or a vulnerability of certain organs and certain tissues in certain persons. He still retained his opinion that the word "predisposition" is commonly employed in connection with the early manifestations of the disease, and therefore, to avoid confusion, he preferred the word "susceptibility" to denote a passive condition of the subject and quite compatible with health. Carbolic-acid inhalations, in fibroid phthisis with bronchial dilatation and fetid expectoration, he had used, with excellent results. Its benefits are due probably as much to the action of the acid as a local anæsthetic as to its other properties in preventing putrefactive changes. Desiccated blood he had not used for enemata, on account of the supposed danger of introducing the ova of parasites or other germs, the blood not being sufficiently heated in its preparation to destroy their vitality. In regard to night air, which is the only air that can be breathed at night, the question is simply between breathing impure air and the purest air attainable at the time. It seems, however, a proper precaution in malarial regions to sleep in the upper rooms of the house, where the windows may be opened without admitting the exhalations from the soil.

DR. S. W. GROSS has resigned from the surgical staff of the Philadelphia Hospital.

NEW YORK COUNTY MEDICAL SOCIETY.

STATED MEETING, JUNE 26, 1882, DR. FREDERICK R. STURGIS, PRESIDENT, in the chair.

THE scientific work of the evening consisted of the presentation of cases of leprosy, with remarks, by H. G. PIFFARD, M.D.

Dr. PIFFARD said he had spoken on this subject before the Society a year ago, and would simply present another case this evening and make a few remarks upon certain points raised by Dr. Emerson and Dr. Fitch, of India.

The patient presented was a Japanese who spoke no English, and the history was therefore imperfect. None of his family, so far as could be learned, had suffered from any skin affection. He lived in Japan until two years ago, when he came to New York and worked as a packer in a Japanese store. He was admitted into Charity Hospital on the 20th of May, this year. He denied syphilis. There was a vague history of gonorrhœa and bubo ten years ago. He had not had connection for ten years. Six months before admission he felt sick; spots appeared on the legs, then on the arms and trunk. These spots came quickly,—which occasionally occurred in leprosy, though not as a rule. Within a week the eruption was fully developed. After being sick a month, he went to the New York Hospital, where the diagnosis of leprosy was made, and he was then sent to Charity Hospital. On May 20, when Dr. Piffard saw him, he was lying in bed suffering from febrile action; the face puffed up, simulating erysipelas. There were certain spots and eruptions on the body, not scaly as at present. The question arose as to whether he was suffering from either syphilis or leprosy pure and simple, or from both diseases. In leprosy one might have eruptions very closely simulating the tubercular eruptions of syphilis; there might be enlargement of the inguinal and other glands, etc.; and it was well known that in the Sandwich Islands, for instance, where leprosy was common, the symptoms present were often so much like those of syphilis that it was difficult to make a differential diagnosis, or to determine whether both affections were not present at the same time. About a year ago Dr. Hanna sent him a patient asking whether he were suffering from syphilis or from leprosy. He was unable to determine whether either of the diseases was present in its simplicity, and the man improved up to a certain point under syphilitic treatment, when he came to a stand-still. He understood that he afterwards improved greatly under treatment for leprosy. It was probable the man had both diseases, as was quite commonly the case in China and elsewhere.

Dr. Fitch claimed that leprosy was simply a fourth stage of syphilis occurring in a race whose ancestors had not been thoroughly

inoculated with the syphilitic disease. In the latter class there seemed to be a special exemption from this fourth stage, as was true of nearly all the white people who lived in India, the cases of leprosy there occurring almost altogether in the natives. He believed that the white people obtained this exemption by inoculation of syphilis in their ancestors when it was so common, in Europe, about the fifteenth century.

A large number of the Sandwich Islanders had recent syphilis, and of the many patients presenting themselves at the dispensary to which Dr. Fitch alluded it was seldom that a diagnosis could be made between those who had syphilis and those who had leprosy, for the same lesions characterized both,—the same sore throat, the same deep-seated pain, the same coppery color, tubercular sores, disease of the bones, fissure of the tongue, local anæsthesia, etc. Indeed, as said before, he claimed that the cases of leprosy were only cases of syphilis in a fourth stage. The treatment which was of benefit in syphilis, he claimed, was the only thing which proved of benefit in leprosy. Both were alike incurable, and both alike amenable to treatment.

Bearing upon these ideas entertained by Dr. Fitch, Dr. Emerson had asked him certain questions, which he would answer in order, as follows:

1. Do you find any cases of leprosy occurring absolutely without previous leprous intimacy, or under such circumstances as forbids your thinking it came through such intimacy? A. I do not know just what he means by "intimacy." I have hinted that the disease in the majority of cases is not contagious by simple contact, but that it is probably propagated by the blood or some leprous secretions gaining access into the blood-vessels or the tissues of the healthy person. There is very little doubt but that leprosy has been propagated by inoculation and by sexual intercourse, and that it is hereditary, but there seems to be great doubt as to whether it can be contracted simply by being near a person, or even by handling. During the past twenty years there have been a good many cases of leprosy in New York, some being in the hospitals for periods covering months or years, but there is yet to be found a single case of leprosy developed in this city or its neighborhood, although these lepers were in contact with a large number of natives. I know of but two cases of leprosy developing in this city at all,—this case being one, and the other being the patient I showed last year. Both of these had lived in countries where leprosy is common, one in Japan and the other in Mexico. As to whether any cases of leprosy occur without any previous leprous intimacy, I would say that I have never seen but one case where there appeared to have been no sort of connection or contact or intimacy with

any other. That was the case presented by Dr. H. D. Bulkley at the meeting of the Dermatological Society about fifteen years ago. The patient was a native of New York State, and had never been out of the State; had never been anywhere where leprosy prevails, and, as far as was known, never had any contact with a leper. The case was pronounced to be one of leprosy by the highest authority.

2. Have you or have you not found any lepers who have not had any previous history of syphilis? In reply to this question, I would say that in none of the cases of leprosy which I have seen could a history of syphilis be clearly made out.

3. Do you find cases of leprosy occurring in patients previously syphilitic under such circumstances as lead you to believe that leprosy comes from syphilis? That can be answered, as far as my own experience goes, in the negative.

4. Do you find any cases or facts that lead you to think syphilis may change into leprosy? A. I have never seen any cases that would lead me to think so.

5. Does not the pathology of leprosy differ widely from that of syphilis,—I mean the microscopical pathology? A. There is no question at all but that it does. The lesions of leprosy are chiefly in the skin and nervous system. If you examine the leprosy tubercles you will find proliferation of connective-tissue corpuscles, and the organization of these proliferated cells lengthening out and forming fibres, as found in quite a number of examinations. Very recently it has been claimed that bacilli have been found in these tubercles, but there is doubt about that. The distinctive microscopic feature of leprosy is found in the nerves going to the extremities and in the cord. There is proliferation of the connective-tissue corpuscles resulting in swelling of the nerve, as of the ulnar nerve, which is quite large in this man. Afterwards there is a shrinking or sclerosis of the tissues, and the nerve becomes much smaller than normal.

It seems to me, therefore, that Dr. Fitch is unquestionably wrong with regard to the connection between leprosy and syphilis. The fact that a large majority of natives where he is have syphilis, and that probably as many as ten per cent. have leprosy, would account for his finding but few with the latter disease who had not also a history of syphilis, and for his claiming a connection between the two affections.

Another point which Dr. PIFFARD considered an important one was the question of providing means of isolating persons with leprosy in this country from healthy persons; for, as it had done in other countries when it once got a foothold, it was likely rapidly to spread. He had seen as many Europeans with the disease in the United States as those who were born in countries where it was specially prevalent.

DISCUSSION.

Dr. JACOBI remarked that since there appeared to be no reason for supposing leprosy, to be contagious, he did not understand why these patients should be isolated. On the contrary, he thought they should be allowed perfect liberty to go about, that other physicians also might see examples of a disease which is so rare in this country.

Dr. PIFFARD remarked that while leprosy might not be spoken of as strictly contagious, the same was true of syphilis; yet if all persons with syphilis were isolated, doubtless there would be fewer cases of that disease. He supposed leprosy was propagated in a somewhat similar manner to syphilis.

Dr. JACOBI added that Dr. Piffard himself had admitted that all the cases of leprosy which he had seen in this country, excepting one, had come from places where leprosy was known to prevail, and in not a single instance did he know of the disease having been propagated to one of our inhabitants. He could not see, therefore, any necessity for isolation. Moreover, to advocate isolation was theoretically to sustain the idea of contagion by communication or some means, which ought rather to be proven by facts.

Dr. RAWSON referred to a case in Bellevue Hospital as long ago as 1829. The whole body of that patient was covered with dry and pretty large scales.

Dr. CARPENTER quoted the history of a case by Dr. Low, characterized by dry scales.

Dr. PIFFARD said the elephantiasis of the old Greeks corresponded to the leprosy of the present day, and to this particular case; that the term *lepra*, as employed at that day, corresponded to the psoriasis of the present day, and to the so-called leprosy of the New Testament. To this class the case quoted by Dr. Carpenter, and others that had been mentioned, probably belonged. The English translators had made a mistake in calling the disease referred to in the New Testament leprosy. It was *lepra*. Leprosy was referred to in the Old Testament.

Dr. CARPENTER remarked that Dr. Low spoke of this case as one of *lepra*.

In reply to a question, Dr. PIFFARD said the average length of life of patients suffering from leprosy was supposed to be ten or twelve years, while psoriasis was not known to shorten life.

Dr. DOUGLASS remembered, many years ago, to have seen *lepra* transmitted from parents to several of their children.

The President said he had seen many of the cases to which Dr. Piffard had referred, and others, and he would say a word with regard to the differential diagnosis between leprosy and syphilis. In the first place, leprosy, like syphilis, attacked, he believed, all the tissues of the body. There was a gross resemblance between leprosy and syphilis in so far as the eruption on the skin went. In

both there was a macular form of skin disease; but in leprosy the macules covered a broader surface, and were generally preceded by such an amount of fever as was never seen in a syphilitic eruption. He believed that the many cases called erysipelas occurring with leprosy were nothing more than true leprosy fever. In one case, after the macular eruption, and before a second crop of tubercles came out, the temperature rose to 105° F. and the face became enormously swollen. It appeared as though erysipelas had invaded the face and upper portion of the chest. It soon disappeared under treatment, when the macules, and then a fresh crop of tubercles, came out. There might or might not be enlargement of the lymphatic glands. The ulnar nerve, as Dr. Piffard had said, became enlarged. The cartilages of the nose, ears, etc., became thickened, and connected with anæsthesia, which might also be present before the macules made their appearance, being more pronounced, however, as the disease passed on to the tubercular stage. There might also be an iritis. The tubercles had no tendency to break down, as they often had in syphilis. The anæsthesia increased, the hands, fingers, and toes began to swell, and dry necrosis occurred. The mucous membranes became invaded with tubercles, the voice might become hoarse and husky, the fingers might drop off without hemorrhage or apparent violence. He doubted whether the eruption in leprosy ever became scaly; and those cases in which the scales were abundant should not be considered cases of this disease.

As to the question of isolation on the grounds of possibility of contagion, that was a mooted point; but where leprosy prevailed, isolation or hospitals for patients so afflicted were necessary, if for no other reason than to support the many who became utterly incapable of doing anything for themselves.

With regard to treatment, he did not remember to have seen any good effect from the use of iodide of potassium. Arsenic was tried, with negative results. Various other remedies were tried, with negative results. In one case in which Chaulmoogra oil was tried, it seemed to be of decided benefit. Dr. Piffard seemed to obtain marked results from a drug the active principle of which was strychnia.

With regard to the etiology of leprosy, Dr. PIFFARD quoted Dr. Emerson to the effect that it did not occur sporadically, but among families or groups of people.

Dr. JACOB said he was willing to admit the facts, but he was not willing to accept them as evidence of the contagious nature of the disease; for we knew that malarial and other affections occurred often endemically, or as affecting several persons in a family or neighborhood, rather than here and there an individual; yet they were not diseases of a contagious nature.

The Society adjourned until the fourth Monday in September.

REVIEWS AND BOOK NOTICES.

A CLINICAL HAND-BOOK ON THE DISEASES OF WOMEN. By W. SYMINGTON BROWN, M.D. New York, William Wood & Co., 1882.

This book, the preface tells us, does not claim to be a treatise. It omits many recondite aspects of disease, but is a practical guide for the use of students and country practitioners,—heaven help them! An effort has been made "to concentrate the best that has been written on each subject, including the old masters;" so that we take it to be a sort of picture-gallery, so to speak, though none of the old masters' names are appended to the illustrations, and the reader is obliged to use his own art knowledge and furbish up his reminiscences of European galleries before he can decide whether, for instance, Fig. 2—"Genital organs, perpendicular view"—is the work of Perugino or Cimabue; though a novice can see the hand of Michael Angelo in the spirited study of sponge tents, p. 117. Cutter's retroversion pessary dates back probably to some obscure master in the twelfth or thirteenth century, while the life-like drawing of Cusco's speculum, p. 35, is taken from Bewick's "British Birds." P. 106 shows a very remarkable picture, resembling nothing now existing on earth, and entitled "After Schroeder." There was some historical worthy who said the deluge came after him; but this thing is worse—for Schroeder.

The author has written a readable book, sound on most topics, conservative, not overflowing in originality. He is evidently a believer in inflammation of the cervix. He thinks that there is true inflammation of the cervix, because chlorides accumulate in its tissue. This is proved by touching it with the solid stick: "a dense white precipitate is formed immediately." In pneumonia there is inflammation; chlorides accumulate in the lung-tissue; they are absent from the urine: *ergo*, where we find chlorides in the cervix, whether the urine contains theine or not, the analogy is perfect, and the cervix is inflamed. By touching his own tongue with the solid stick, the author would produce the same dense precipitate,—perhaps more dense,—and the analogy would hold equally good. The reader may try it.

The author highly recommends Dr. Cutter's pessary for retroversion, giving the inventor's account of it, and its means of application. In anteversion he uses local depletion, incises the external os, if small, and uses the hot douche twice a day. Of pessaries, he prefers Thomas's anteversion, with Playfair's

modification, or Cutter's loop pessary; abdominal supporters, and, as a last resort, the excision of a triangular piece of mucous membrane in front of the cervix.

The chapters on uterine and ovarian tumors and ovariectomy (Battey's operation) are brief compared with the space they occupy in most works of this character. For terse and vigorous English we refer the reader to the author's remarks (p. 146) on the treatment of puerperal fever. It is condensed to half a page. Bleeding to faintness, if seen before four hours have elapsed; after that bleeding is doubtful practice. Opium in large doses; four-drop doses of verat. viride every hour till the pulse is slowed. "If the opium is vomited, inject a saturated solution of morphia with the hypodermic syringe." The quantity of the saturated solution used is evidently unimportant. After the first day, quinine, ten-grain doses, night and morning. Draw off water every four hours. The one case cited in illustration died. The solution of morphia probably was not saturated. Of puerperal convulsions the author says, "Albuminuria is not always present before convulsions, and is often present when none occur,"—a statement which seems to us to embrace the facts of the case. It is quite possible that the albumen is a probable, but by no means necessary, accompaniment of the morbid agent in these cases; and when we consider that uterine convulsions are by no means proved to be the result of the retention of urea, there is room for further discovery. The author bleeds early, gives an active cathartic,—elaterium, one-quarter grain to a teaspoonful of sulphur,—repeated, if inactive, in half an hour; if a hearty meal has been taken, a zinc emetic, and uses the catheter, though whether he uses it to tickle the fauces or in the ordinary way he leaves us in doubt. Chloroform inhalations to arrest the convulsions, and the early induction of labor should they still recur. In convulsions after delivery, small but frequently-repeated hypodermics of morphia and hydrocyanic acid by the mouth, with a poultice of digitalis leaves to the lumbar regions when urine is scanty. Chloral hydrate and jaborandi are also mentioned.

The author's treatment of cystitis would have been more full had he added belladonna, iron, benzoic acid, and cantharides, four useful remedies, to his list, a trial of which might, in many cases, prevent a resort to what he evidently considers the true treatment,—viz., the formation of an artificial vesicovaginal fistula. The idea that piles are often caused "by the use of cheap newspapers after defecation" will call down upon him the maledictions of the penny press.

Under the head of anal fissure we find one illustrative case. The patient is described as a "lady of more than average intelligence." This probably hints at some observations of the author, not yet published, which

will go far to prove that the victims of anal fissure are, as a rule, deficient in intellect. In the final chapter on sterility and hysteria we find Dr. Ellwood Smith (!), of Philadelphia, quoted as recommending "rapid dilatation, by means of a two-bladed dilator, of which he uses three sizes." The syncretical Boston mind will insist on blending the names which, separately, have long enjoyed a more than local reputation. To the elevated observer at the Hub the two seem but one,—especially before dinner. E. W. W.

HOME AND CLIMATIC TREATMENT OF PULMONARY CONSUMPTION, ON THE BASIS OF MODERN DOCTRINES. By J. HILGARD TYNDALE, M.D. New York, Birmingham & Co., 1260 and 1262 Broadway, 1882.

Pathology, general treatment, home treatment, climatic treatment, embrace the outlines of this book. It will be found, though unpretending in appearance, to contain a great store of valuable information, well arranged and pleasantly and forcibly presented. Every known method of treatment is discussed dispassionately and fairly, with the author's comments.

Climatic treatment is based upon an exhaustive, if condensed, review of the various mundane climates, their moisture, dryness, elevation, prevailing winds, range of temperature, and purity of air; and the attempt to base the recommendation of change of climate on fixed data and an intelligent judgment seems to us thorough and successful. After assimilating this work, the practitioner will not be so ready to send his patients haphazard to Florida or Colorado, to the shore or the mountains. We believe that in the main, and except where led away by the views of distinguished men abroad, whose views are not always applicable on this side the water, the author has furnished us with the material facts on which to form a right opinion in any given case as to what climate will be most beneficial. We do not agree with his view of the method by which mountain-air works its cures, and we miss any account of the probable after-effect to be looked for when an apparent "cure" seeks to resume home-life with its climatic difficulties. In short, it is a question whether we should not, in many cases, look beyond the hoped-for result to the chances of permanently retaining improvement. If we hesitate between recommending mountain-air or the air of the seashore, should we not ask, in incipient cases, whether, apparent cure being effected, return from the shore or the mountain will be most apt to be followed by dangerous depression and rapid or slow relapse? Colorado, with all the wonders it has wrought, has seldom as yet enabled its cures to resume residence safely in the Eastern and Middle States; while the pines and shore and long sea-voyages, if successful, seem to fit their successes better for

enduring a return to every-day life or work. The time spent, however, in a careful reading of Dr. Tyndale's book will go far towards helping us to a personal solution of the many questions involved in the treatment of consumption.

E. W. W.

MARRIAGE AND PARENTAGE, AND THE SANITARY AND PHYSIOLOGICAL LAWS FOR THE PRODUCTION OF CHILDREN OF FINER HEALTH AND GREATER ABILITY. By a Physician and Sanitarian. New York, M. L. Holbrook & Co., 1882.

While civilization is lamenting the increasing disinclination on the part of its young men to enter upon the married state, at this very time there is thrust upon the world another hindrance to matrimony, in the shape of "Marriage and Parentage." As the good Brahmin, who held life sacred, preferred to die of thirst after viewing his ditch-water through a microscope, so will our youth, after perusing such works, prefer life single rather than the entailing of such numberless ills as the author describes on their innocent children, rather than begin even the search for a partner who will come up to the requisite standard of health and other qualifications enumerated by the "physician and sanitarian."

These books are written to catch the prurient eye by their title; but the subject-matter is not calculated to do much harm. The facts are old, the argument trite, the science cheap. We have read somewhere before about the effects of tobacco on French students, and that old men should not marry young women. We have read about the Zulu marriage customs and the Spartan laws. We know how wonderfully the Grecian race developed. But, alas for the "physician and sanitarian," it is not cheap science but "love that makes the world go round," and "money that makes the mare go," and the two influences combined will outweigh the efforts of a thousand advocates of sanitary marriage.

The author hopes that ere long, before entering the married state, the youth of both sexes will consult the wise sanitarian; but we fear it will be long before the wise sanitarian develops that line of business into a pecuniary success. The license-clerk, the justice of the peace, the clergyman, are a long way ahead of him yet.

The physician and sanitarian would, if he had his way, improve humanity by breeding, as stock is improved. The breeders of men would take an ideal standard and breed up to it. He gives the rules of the best breeders, and would apply them to us if he could. He would take two brothers, and kill and eat one, if breeding, for instance, for the King of the Cannibal Islands. If the brother proved succulent and tasty, if he seemed tender and full of juice, he would breed from the remaining brother; but if he proved tough and dry he

would eat this brother too on some day when his larder was empty and his teeth sharp.

But one man's ideal standard may differ from another, even as the Apollo Belvedere differs from—well, the statue of Washington in front of Independence Hall. The breeder's standard might be false. He might breed short-legged people "till their bellies trailed on the ground," or hook-nosed people, or people with long ears, like his own ancestral ones. All these failing, the enthusiastic sanitarian might try raising from slips and cuttings. In short, the flood-gates of outrage would be opened on poor humanity, and the laws of natural selection—a different and much better thing—he utterly abrogated.

E. W. W.

GLEANINGS FROM EXCHANGES.

POISONING BY ACONITIA.—An individual, after taking dinner, swallowed, with suicidal intent, about eight grains of Merck's aconitine, which produced a fatal result after twelve hours' suffering. The case is reported in the *Medical Press and Circular* (May 24) by Dr. F. Springmühl, who saw him half an hour after taking the poison, when the first symptom appeared, and who describes it graphically as follows:

"S— had dined before swallowing the poison, which fact caused its action to be considerably retarded and his sufferings prolonged. A burning sensation in the throat and mouth first made itself felt, and this became more intense with every minute; intense pains in the stomach ensued after thirty minutes, and these became so violent in a few seconds that the patient writhed, shrieking, in the most dreadful convulsions, and trying to strike the wall with his head. With difficulty he was held, and emulsive drinks, as milk and oil, given him. Very soon he became nearly incapable of swallowing, and seized with spasmodic coughing and wanting to vomit. In spite of emetics, he could not vomit until an hour after the taking of the poison, and then with violent exertion a dark-greenish fluid was vomited, and the patient felt no relief to the pains in the stomach, and the burning in the throat, which rendered the swallowing and the application of antidotes very difficult. Neither did the stomach-pump (used immediately) give any relief; and, although exhaustion ensued after violent convulsions, the symptoms reappeared with renewed force in spite of all applied remedies. In the commencement of the third hour the pains and convulsions attained such violence that death was expected every instant; but this did not ensue till many hours afterwards.

"In the fourth hour, after repeated injec-

tions of morphia, the patient seemed somewhat better. Previous to this he made us understand that his skin was frightfully irritated. This irritation of the skin, as of ants crawling, continued apparently the whole time, and whenever the intensity of the pains somewhat relaxed he scratched the skin of his head and naked breast in a convulsive manner until perfectly sore. His eyes glared wildly about, sometimes resting with a fixed stare on one point. The convulsions were repeated at almost regular intervals, and the inclination to vomit continued, although vomiting did not follow after the second hour. At intervals of about forty minutes the patient seemed to lose consciousness, but only for several minutes, whereupon the convulsions and the other symptoms appeared with undiminished violence. Three hours after the appearance of the first symptoms he became incapable of uttering intelligible words, but made us understand that he felt a giddiness, and a little later he appeared to have lost his sight. He threw himself wildly about on the couch, and screamed and groaned so frightfully that I have never heard anything to equal it. Thereupon exhaustion and apparent coma, and then renewed attacks of the most violent description. All attempts to give relief were in vain. Then a difficulty of breathing set in, and he appeared to suffocate. At intervals he was conscious, and when asked where he felt pain he made rapid motions to his head and stomach alternately, and wanted to drink, although he could not swallow. His pulse and temperature fell considerably, and before death thorough exhaustion and unconsciousness set in, cold perspiration covered his whole body, and death-like pallor before the end, which was syncopical, while all the time asphyxetic death had been expected.

"The post-mortem examination of the body gave no results which were not known before. The pupils of the eyes were much dilated, the interior of the mouth was very pale, the brain congested, as well as the lungs. The valves of the heart were very flaccid. Congestion was observed in the liver and kidneys, an inflammation of the stomach was apparent, and the mucous membrane congested. The alkaloid was found by chemical analysis in the contents of the stomach; it was not found in the urine of the deceased."

In commenting upon this case, Dr. Springmühl again calls attention to the great difference in strength and in physiological action between the various forms of aconitine in the market, and states that a doctor who would in England give a patient aconitine according to German or American prescriptions must necessarily cause his death. The English (Morson's) aconitine is remarkable for its particularly poisonous action upon the human system, and the author concludes that it must contain some other poisonous principle not

found in either the German or the French preparation.

ETIOLOGY OF TUBERCULOSIS.—Koch has apparently succeeded at last not only in recognizing the tubercular virus, but in cultivating it artificially. To the bacteria which form the *materies morbi* he gives the name of tubercle-bacteria. They are distinguished from other bacteria by the blue color which they retain after staining in methylene blue along with caustic potash, and subsequent treatment with vesuvin. The tissues in all bacteria, except the tubercle-bacteria, are rendered brown by the vesuvin; but it does not alter the color of the tubercle-bacteria. Tubercle-bacteria are rod-like, and therefore belong to the group of bacilli. They are very thin, and their length is from one-fourth to one-half the diameter of a red blood-corpuscle. They resemble lepra-bacilli, but the latter are thinner, more pointed, and take up coloring-matter when treated by Weigert's method, which the tubercle-bacilli do not. Tubercle-bacilli are found in great quantities wherever the tubercular process is commencing or progressing rapidly. They generally form thickly-crowded and often bundle-like groups, which frequently lie in the interior of cells. Numerous free bacilli are also to be found, and especially at the edge of caseous foci they occur in crowds not enclosed within cells. As one recedes from the most active focus, the bacilli diminish in number. Where giant cells occur (*vide* Hamilton, *Practitioner*, July, 1880, p. 6) the tubercle-bacilli are chiefly found within them. Some giant cells are free from them, but the author considers that these are old cells in which the bacilli are either dead or have passed into the resting state. As Weiss, Friedländer, and Laulamié have observed that giant cells grow round foreign bodies, such as vegetable fibres and strongylus ova, one may conclude from analogy that the tubercle-bacilli, being enclosed by the cells, have acted as foreign bodies and have caused the cells to develop into giant cells. The author considers that the organisms noticed by Schüller, Klebs, and Aulrecht were not tubercle-bacilli. From numerous observations he concludes that tubercle-bacilli, distinguished by the peculiar characters he has described, occur in all tubercular affections of men or animals. In order to show, however, that the tubercle-bacilli do not merely accompany, but actually cause, the tubercular process, the author cultivates them in ox- or sheep-serum sterilized by intermittent exposure to a temperature of 58° C. for an hour each day during six days, and finally coagulated by a temperature of 65° C. The bacilli are kept at a temperature of 37° to 38° C. They grow very slowly, so that their growth only becomes evident to the naked eye at the end of a week or ten days. In order to obtain them pure, a second crop must be cultivated by putting some of the first crop into fresh serum after

ten or fourteen days. When the tubercle-bacilli thus cultivated were inoculated into a guinea-pig with every necessary precaution, the result was always the same. On the day after inoculation the slight wound on the belly near the inguinal glands was closed, and remained unchanged till about the eighth day, when a little tubercle formed, which either enlarged without breaking, or, what was more generally the case, was converted into a dry, flat ulcer. In two weeks the inguinal glands on the inoculated side, and sometimes also the axillary glands, were swollen to the size of peas. The animals then became rapidly emaciated, and either died in four to six weeks or were killed in order to exclude any fallacy from the after-development of tubercle spontaneously. Other experiments made by the author show that cultivated tubercle-bacilli either inoculated into the cellular tissue, or injected into the peritoneal cavity or anterior chamber of the eye, or directly into the circulation, produced tubercle without exception. Inoculation into the anterior chamber of the eye produced tubercular iritis (see *Practitioner* for August, 1881, p. 87). The author regards the presence of tubercle-bacteria as the only means of deciding whether any condition is tuberculous or not. His observations show that, according to this test, miliary tubercle, caseous pneumonia, caseous bronchitis, intestinal and glandular tuberculosis, "Perlsucht" in oxen, and spontaneous or inoculated tuberculosis in animals, are all identical. He has not come to any conclusions as yet regarding scrofulous and fungous affections of joints. The discovery of tubercle-bacilli in a pig and fowl renders it probable that tuberculosis is much commoner among domestic animals than is usually supposed. From experiments which the author made in order to discover whence the tubercle-bacilli come and how they get into the organism, he found that they only grow between 36° and 41° C., and therefore in moderate climates can only grow within the animal body, as there only can they have a continuous regular temperature of over 30° C. for at least two weeks. Most of the tubercle-bacilli are probably inhaled in the form of dust. Phthisical sputum contains them in large numbers, and they retain their virulence, when dried, for weeks. Phthisical sputa when dried and converted into dust may produce tuberculosis: they ought therefore to be carefully disinfected. They do not produce tubercle in every case when they are inhaled, probably because, unlike the anthrax bacillus, they grow very slowly. Thus, when introduced into a cut on the skin, as during the post-mortem examination of a phthisical patient, they have no effect, because they are expelled before they can get established; and the same is probably the case when they enter the lungs, unless a nidus is afforded by stagnating secretion, or mucous membrane

which has lost its epithelium, etc. In order to prevent the spread of phthisis, the sputa of patients should be carefully disinfected, as well as the clothes, bed, etc., which they use. Another source of infection is tuberculosis among domestic animals, and the flesh and milk of animals suffering from it ought to be shunned.—*The Practitioner: Separat. Abdr. aus der Berl. Klin. Wochenschrift.*

THE CURE OF EPILEPSY BY LIGATURE OF THE VERTEBRAL ARTERIES.—Dr. William Alexander reports, in the *Medical Times and Gazette*, five cases of epilepsy greatly improved by tying one or both vertebral arteries, and states that the three cases previously reported (*ibid.*, November 19, 1881) have remained free from fits from that time. As all of the cases were nearly or quite idiotic, and confirmed epileptics, the results are no less astonishing than gratifying. The operation is performed by making a linear incision outside of the sterno-mastoid muscle, and outside of the veins which converge to the lower third of the outer border of that muscle. The subcutaneous tissues are next cautiously divided, until the finger can be inserted into the loose fatty tissue that lies inside of the scalenus anticus muscle. Upon retracting the sterno-mastoid, with the subcutaneous veins and the internal jugular vein, towards the middle line, the sulcus, towards which the vertebral artery runs, is exposed, when a little scratching with a director will expose the vessel, the ligation of which is then a matter of routine.

A curious physiological fact was noticed. When the vessel is ligatured, the pupil on that side becomes contracted, and in the majority of cases it remains so. Tying the opposite vertebral, the opposite pupil contracts, and the pupils again become equal. The effect upon the mental condition of the patient is good, both directly and indirectly, and the intelligence is decidedly improved. Dr. Alexander has tried this operation in hereditary cases, and in epilepsy following scarlet fever, blows, fright, and in cases where no cause could be ascertained. In all the effect was beneficial and mostly curative, so far as time permits him to judge. Further observation may establish this as the best method of treatment of confirmed and otherwise hopeless epileptics.

RUPTURE OF THE HEPATIC DUCT.—An interesting case of vomiting followed by fatal collapse, in which the autopsy showed rupture of the hepatic duct, is reported in the *Lancet* (May 6, 1882) by Mr. John Freeland, of Antigua. The patient was a black woman, 65 years of age, who had been suffering with intermittent fever, with gastric disturbance, and retching. In one of the vomiting-spells she experienced great pain, which, being relieved by an opiate, soon returned, and was attended by a tympanitic and tender abdomen. After death, which occurred in collapse about eight hours later, the cavity of the abdomen was found literally filled with blood and bile, the

intestines inflamed and gangrenous in spots, and general peritonitis. The gall-bladder was found empty; the hepatic duct was lacerated, and in places contained pouches in which gall-stones were encysted. One of these bags was pervious, and permitted a leakage of bile into the peritoneal cavity, except when obstructed by a gall-stone which it held. This opening had probably existed for years. The former one was surrounded by evidences of recent inflammation, and without doubt caused the fatal result. The spleen was deeply stained with bile; the other viscera did not show such decided coloration.

POMPEIAN SURGICAL INSTRUMENTS.—In the Museum at Naples are preserved a number of instruments, the uses of which are clearly recognized. They were all taken together from one house. Among them is a pair of forceps, supposed to be used for obstetric forceps; but, according to M. Jonin (*Revue Médicale*), they are more properly surgical. A tube for vaginal injections, the end being perforated by two rows of openings, as well as by a terminal one, very strongly suggests the modern form. There is also a trivalve vaginal speculum, and a bivalve rectal speculum, opened and closed by a screw, and catheters of silver, both male and female. Particular interest attaches to an instrument consisting of an iron rod having a small terminal plate (angle, 135°), which, as suggested by M. Jonin in an article in the *Revue Médicale*, may have been used as a laryngoscope, or at least, acting upon the same principle, for the exploration of deep cavities. Among the instruments are a metallic trocar in two pieces, similar to those in use at the present day, bistouries, very large lancets, various forms of stylets, curved and straight, some probably intended for the examination of carious teeth. There are also curette spatulas, small forceps, and various needles and hooks, and surgical cases with instruments, and cases for pills and ointments, etc.—*Lancet*, April 15, 1882.

THE PATHOLOGY OF LUPUS.—Dr. E. S. Shurley, of Detroit, read a paper before the last meeting of the American Laryngological Association entitled "Lupoid Ulceration of the Nasal Septum," in which the pathology and treatment of lupus were considered with especial reference to its appearance in this locality. The paper was based upon the study of four cases of ulceration, more or less destructive, of the nasal septum, one of which was accompanied with veritable lupus of the skin, while the others were not. The clinical history, carefully obtained, showed in neither case a syphilitic taint. The conclusions summed up by the writer were,—that lupus, when its pathogeny and pathology become more thoroughly studied, will probably be considered a scrofulous manifestation; that lupoid ulceration often simulates syphilitic ulceration so closely as to be with great difficulty differentiated; that lupus will sometimes occur in

the nasal mucous membrane primarily, and without any invasion of the skin; that the general healthy condition of the patient is not necessarily affected by such ulceration, even when quite extensive; that such ulceration does not depend upon any form of syphilitic poison for its progress, and that its cure or arrest may generally be brought about by those plans of treatment, both local and constitutional, known as antiscrofulitic. In the management, special attention was called to the use of iodoform and thymol, together with cleansing solutions for topical treatment, and the administration of iodine or its preparations internally.

LEPROSY TREATED BY EUCALYPTUS.—A case is reported (in the *Lancet* of May 6), by Dr. Stevenson, of Cape Town, of a woman aged 48, suffering with leprosy of about three months' duration, and general in its distribution. Over the arms and legs were a number of tuberculated anæsthetic patches, and the face had the characteristic leonine appearance. Chaulmoogra oil disagreed with the stomach, and tincture of eucalyptus was substituted in half-ounce doses. It produced diaphoresis, and increased the functions of the skin. One year after the disease began, the improvement was permanent. A few faint spots were sometimes seen on her face when heated: these are the sole remnants of the disease. She had also gained in strength and in weight.

MISCELLANY.

SNAKE-POISON TREATED SUCCESSFULLY WITH LIQUOR POTASSÆ.—Retired Deputy Surgeon-General John Shortt, of the Madras army, having had considerable experience in treating snake-bites, and after some experiments with snake-poison, declares that liquor potassæ is the antidote to snake-poisoning, and reports several cases in which it was used successfully. This is combined with brandy, and local treatment by scarification and ligature is not neglected. Alkaline baths are used in severe cases.—*Lancet*, May 6, 1882.

ABSORPTION OF IODOFORM FROM SURGICAL DRESSINGS.—Dr. Mosetig-Moorhoff (Vienna), who introduced iodoform into surgical practice, says that he always finds iodine in the urine voided after the application of the iodoform dressing. He believes that free iodine is formed in the blood, which enters into combination with the alkalies present, and is then eliminated by the kidneys. On account of its easy absorption, it should not be combined with carbolic acid, or phenyl-poisoning may rapidly follow.—*Centralblatt für Chirurgie*.

SOAP-PAPER.—Dr. Addinell Hewson presented before the Medical Society of the State of Pennsylvania, at its last meeting,

some specimens of paper, tissue or manila, which had been saturated with a solution of soap, and dried. Pieces about the size of a visiting card contain enough soap for shaving or for washing the hands. The superior cleanliness of this method of using soap, especially in hospitals, hotels, etc., is evident, and the proposer also insists that it saves soap. For preparing the paper, a strong watery solution of English glycerine soap is used, in which the paper is immersed; after drying it is cut into pieces of suitable size, and dispensed in a package or a box.

DEATH FROM CHLORATE OF POTASSIUM POISONING.—A patient who had taken a considerable quantity of chlorate of potassium, the exact amount of which could not be ascertained, was found suffering with oppression in breathing, tremor, restlessness, gastric pain, frequent vomiting, and diarrhoea. The urine was dark red in color, diminished in quantity, and contained a large amount of albumen, with blood-casts, disintegrated blood-corpuscles, and renal epithelium, and some granular detritus. The patient lived for a week, vomiting from time to time, and with increasing asthenia. No autopsy was obtained by the attendant, Dr. Lingen, who reports the case (in the *St. Petersburger Med. Wochens.*, March 6, 1882), but he refers to the reported cases in which the blood was of a chocolate color, and the kidneys intensely congested, the tubules containing blood-casts.

A GOOD EXAMPLE.—It has been announced that the Cincinnati Academy of Medicine will present a gold medal to the member who contributes the most valuable paper during the year. This is a most commendable example, and should be followed by other societies that wish to increase the interest and value of their proceedings. The same reward offered for a prize essay would bring out but one or two good articles, but the competition excited by this plan will increase the standard of all the papers presented for discussion, and will react to the advantage of every member.

A NURSE-REGISTRY BUREAU is about organizing in Cincinnati. The success of the institution in Philadelphia may encourage other cities to follow the example, as it has more than fulfilled the expectation of its originators.

THE AMERICAN DERMATOLOGICAL ASSOCIATION will hold its next annual session at Newport, at the Ocean House, on August 30 and 31 and September 1. A good programme is promised.

NOTES AND QUERIES.

CARD FROM PROF. JOHN J. REESE.

TO THE EDITOR OF THE MEDICAL TIMES:

DEAR SIR,—I beg to avail myself of your columns to correct an error in connection with the reports in last week's daily papers of an autopsy made by myself and Dr. Cadwal-

ader, acting coroner's physician, of a woman supposed to have been drowned in the river Delaware. The reporters of the case, in their desire to render it as graphic as possible, have put *their own* interpretation upon the results of this autopsy, whilst making it appear to the reader that they are expressing *my* views; and, inasmuch as these inferences do not seem to me to be fully warranted by a single isolated case, especially when there was no absolute proof that the death was caused by drowning, I do not wish to be considered as endorsing the rather premature conclusions attributed to me by these well-meaning but over-zealous reporters.

Certainly, the leading authorities all teach that the presence of water in the lungs and stomach (especially the former) constitutes the most reliable evidence of death from drowning; and the entire absence of water from both lungs and stomach in the autopsy referred to was undoubtedly a very noticeable feature, *provided* we were certain that drowning was the real cause of death, which we were not, as the case was one of a multitude of similar ones, on which the coroner's jury pronounces the stereotyped verdict of "found drowned".

It is evidently a very important point for the legal physician to settle.—What are the positive, unequivocal signs of death by drowning? It may, in truth, become the *vital* point to establish in a capital case, as would appear to be the fact in the now-pending Malley case. But in order to establish an important scientific truth, the experiments should be repeated under varied circumstances until every doubt is removed. I may be permitted to say in this connection that I am now engaged in investigating the post-mortem appearances in cases of death from drowning, as a legitimate object of inquiry connected with medical jurisprudence; but I had not the remotest idea that the results of the late autopsy, which was conducted with the strictest privacy, and which was only part of a series of observations of a similar character, would have fallen under the ken of the ubiquitous "reporter," and been made to assume a coloring not designed by myself.

Very respectfully yours,

JOHN J. REESE, M.D.

316 S. TWENTY-FIRST ST., June 26, 1882.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JUNE 25 TO JULY 8, 1882.

By direction of the Secretary of War, the Medical Examining Board, convened in New York City by S. O. No. 223, October 30, 1877, from A. G. O., is dissolved, to take effect June 30, 1882, and the following-named officers, now members of the Board, will report by letter to the Surgeon-General:

MAJOR JOSEPH B. BROWN, Surgeon.
MAJOR JOSEPH H. BILL, Surgeon.
MAJOR CHARLES H. ALDEN, Surgeon.

S. O. 147, A. G. O., June 26, 1882.

HEAD, JOHN F., LIEUTENANT-COLONEL AND SURGEON.—Granted leave of absence for fifteen days. S. O. 153, A. G. O., July 3, 1882.

DE LOFFRE, A. A., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from further duty at Fort Wallace, Kansas, and assigned to duty at Fort Sill, Indian Territory. S. O. 124, Department of the Missouri, June 21, 1882.

GARDNER, E. F., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Vancouver Barracks, W.T., and assigned to duty as post-surgeon at Fort Coeur d'Alene, Idaho. S. O. 83, Department of the Columbia, June 19, 1882.

BANISTER, J. M., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon De Loffre, to proceed to camp of Ninth Cavalry, near cantonment on the Uncompaghe River, Col., and report to the Commanding Officer for duty. S. O. 124, Department of the Missouri, c. s.

Under the provisions of Section 1 of the Act of Congress, approved June 30, 1882, the following-named officers are by operation of law this day retired from active service, viz: **BRIGADIER-GENERAL JOSEPH K. BARNES, Surgeon-General.**

COLONEL JOHN M. CUYLER, Surgeon.
COLONEL WILLIAM S. KING, Surgeon.
LIEUTENANT-COLONEL JAMES SIMONS, Surgeon.
S. O. 151, A. G. O., June 30, 1882.

O'DONNOGHUE, F., CAPTAIN AND MEDICAL STOREKEEPER.—Died at New York City, June 29, 1882.

PHILADELPHIA, JULY 29, 1882.

ORIGINAL COMMUNICATIONS.

SIX MAXIMS REGARDING THE TREATMENT OF FOREIGN BODIES IN THE AIR-PASSAGES.

BY LOUIS ELSBERG, A.M., M.D.,

New York,

Professor of Laryngology and Diseases of the Throat in Dartmouth Medical College.

1. A PERSON with a foreign body in the air-passages should never be left without medical care.

2. Medicinal treatment is in most cases insufficient; emetics are dangerous.

3. Expert laryngoscopic procedure for removal should be had whenever possible.

4. Prophylactic tracheotomy should be performed at the slightest indication, in every case in which immediate removal is impossible.

5. Procedures dangerous and often unsuccessful before tracheotomy can, if need be, safely be resorted to, and with increased chances of success, after.

6. For impacted foreign bodies which cannot be removed *per vias naturales*, if not lower down than the superior laryngeal cavity, "subhyoidean pharyngotomy," and if lower down, either high or low tracheotomy, instead of thyrotomy, are the preferable operations for extraction.

1. Although recovery from the effects of a foreign body in the air-passages has taken place, even though the person received no attention at all, yet such a person is always, and for a long time, in a dangerous condition. I personally know a sea-captain who, while transferring grain at Constantinople, got a large ear of corn in his air-passages. It troubled him a great deal at the time, and for years afterward his breathing was interfered with, and he coughed; but he consulted no physician, and was unable to take any special care of himself. Nevertheless his health was not seriously affected, though he suffered from time to time with dyspnoea and purulent expectoration. Nine years later he coughed up the offending body, which I have now in my possession. It is nearly two inches long. Immediately after its expulsion, and for a few weeks, he suffered more than he had since the accident, but he recovered without medication of any kind, and when

I examined him three years afterward, his lungs and whole respiratory tract were perfectly healthy. Similar, and still more remarkable, cases have been related, but such a fortunate recovery is certainly very rare, and must not lead us to think lightly of any accident of the kind. No such case should be left to nature. Of course the prognosis, as well as the symptoms, vary with the nature, the size, and the peculiarities of the foreign body; but even if the latter produce at the time when we see the patient very little disturbance either locally or in the general condition, it is of grave import as long as it remains in the air-passages. Nor is the patient after its removal immediately safe, on account of the disease which it may have set up. Death or serious illness has occurred from the injury sustained by the sojourn of a foreign body, even though spontaneously expelled or extracted by operation, long after its removal. At all events, it is the physician's duty to pay every possible attention to the health of a person in whose air-passages a foreign body has been lodged. Let me quote a paragraph from our own Prof. Gross, the author of the best work on the subject* ever written,—a work which, though long out of print, will probably never be obsolete or surpassed. "An individual who has a foreign body in his windpipe should be regarded as an invalid, unfit to leave his room, or to attend to business. The treatment in the early stage of the complaint should be limited to a general supervision of the patient's health: that is, his diet should be carefully regulated, the bowels should be moved from time to time with mild purgatives, and the utmost attention should be paid to the temperature of the apartment, which should be uniformly maintained at about 68° of Fahrenheit. The chest should be thoroughly examined at least once a day by auscultation and percussion, to ascertain the condition of the lungs and bronchial tubes. Cough should be subdued by mild expectorants, containing, if there be frequent spasms, a suitable quantity of morphia. Should symptoms of pneumonia, bronchitis, or pleuro-pneumonia supervene, they must be promptly met by the ordinary remedies, particularly the lancet, active purgatives,

* Treatise on Foreign Bodies in the Air-Passages. Philadelphia, 1854.

and tartar-emetic, aided, if necessary, by leeches and blisters. By watching the patient in this way, the respiratory organs may be protected from mischief, and the extraneous substance be expelled spontaneously; or, should an operation become necessary, he will be in a much better condition to undergo it with impunity."* I would hesitate to follow the precepts of my revered teacher in regard to the lancet and tartar-emetic; *in every case my third maxim must nowadays not be lost sight of, nor the repeated chest-examination omitted*, and in every other respect Dr. Gross's injunctions should be thoroughly carried out.

2. Expulsion of the foreign body, especially if it be smooth and rounded, as, for instance, a bean, has followed the use of emetics; but experience has so frequently proved their danger that they should be administered in no case without great caution. During the act of vomiting and retching the larynx is compressed; sharp bodies may become firmly impacted in it, and alarming or even fatal spasm of the glottis, or fatal closure of the rima by the presence of the body, may occur; most frequently emetics are useless, if not worse than useless. Errhines are less dangerous, but generally still more useless; they succeeded, however, in the case of Boyer, in which the nose was tickled with snuff while the patient was partially asleep. Prof. Gross has suggested their use in conjunction with chloroform, *i.e.*, at the moment of partial insensibility, or when the patient begins to regain consciousness: "Should sneezing ensue while he is in this condition, with the air-tubes in a state of perfect relaxation, it is easy to conceive that the foreign body might be ejected. Nature would be taken, as it were, by surprise, as she has sometimes been by a dream, as in the remarkable case which happened to Mr. Cock, of London. A very interesting case, in which a piece of fish-bone was expelled from the windpipe under the influence of the inhalation of iodine, occurred in 1832, in the practice of Mr. Day, of England." Not only stimulating medicines, but so-called lubricants, such as oils and syrups, have been given; but medicinal treatment alone must not be relied upon if the foreign body is not speedily coughed out.

3. The laryngoscope has enabled us nowadays to do more wonderful things

in the way of extracting foreign bodies from the air-passages than were ever thought of by the celebrated older surgeons of Europe and this country, whose brilliant pre-laryngoscopic operations we might otherwise not dare hope to approach, much less to surpass. I have removed thread, pin, needle, nut-shell, fruit-stone, seeds, peas, beans, bones, buttons, coins, artificial teeth, etc., especially from the pyriform sinuses and upper laryngeal cavity, which would have been utterly impossible without the laryngoscope. I could fill page after page with the recital of what has been accomplished in this respect in the different parts of the world during the last twenty years. The corollary is that every physician who is liable to be called upon to treat a case of foreign body in the air-passages—and are there many physicians who are not?—ought to familiarize himself with the employment of the laryngoscope; but if he is not sufficiently familiar with it, it is his bounden duty to send the patient to an expert laryngoscopist, if such a one be accessible. I have been informed that recently a man in this city was "given up to die" from laryngeal consumption, though no laryngoscopical examination had been made, who got well after coughing up a tooth which had dropped into, and had become impacted in, the larynx while the patient was under anæsthesia during the removal of several teeth some months before. Local anæsthesia, produced by applying morphine and chloroform directly to the parts, has aided in the laryngoscopical removal of foreign bodies from the upper air-passages in several instances; in others, general anæsthesia.

4. In every case of threatened suffocation from obstruction by the foreign body in the upper air-passages, in which, on account of either the patient's condition, the physician's want of expertness, or the nature and seat of the foreign body, immediate or laryngoscopical removal is impossible, tracheotomy ought to be performed *without any unnecessary delay*. I insist upon this because I know of two clear instances in which apparently justifiable postponement cost the patient's life. When the correct diagnosis has been made, there can be no question of a contra-indication, unless, indeed, the lungs or the patient's general strength be already too seriously affected for any interference. The first attacks of suffocation from the ingress of the foreign

* System of Surgery, vol. ii.: Treatment of Foreign Bodies.

body are frequently followed by a period of calm and comparatively easy respiration. The physician seeing the patient during this period may be misled as to the gravity of the case. But while the foreign body is in the air-passages the calm is deceptive, of but short duration, and should not be considered as a contra-indication to prophylactic tracheotomy.

If the foreign body is seated below the point where the windpipe can be opened, the operation of tracheotomy, even though not performed as a direct prophylactic measure, *i.e.*, to prevent immediate asphyxia, must be done for the purpose of facilitating the removal of the offending substance; and although it has exceptionally happened that a movable foreign body in the trachea has, after tracheotomy, become tightly wedged into a smaller tube, yet, as a rule, the operation is not only successful prophylactically, but itself often acts, no matter whether the foreign body is seated above or below the opening, as a curative measure. Most surgeons say that a tracheotomy performed *lege artis* in a healthy individual is a simple and undangerous operation; now, I do not regard, from any point of view, the cutting open of the windpipe as perfectly harmless, but I am willing to admit with Guyon that untoward results following it, under the circumstances I am considering, are more often than to the operation itself due to—"1, the conditions under which it is performed, above all, anterior accidents, such as asphyxia, more or less marked, and of a longer or shorter duration, before the operation, pulmonary lesions, etc., and, 2, non-expulsion or difficult expulsion of the foreign body afterward. At all events, tracheotomy, whenever necessary to prevent asphyxia, must be performed under all conditions, and always as soon as possible. The more desperate the case, the less should we refuse the patient his only chance for life; and *every physician worthy of the name must be ready in an emergency to perform the operation, whether he calls himself a surgeon or not.*" For immediate prophylaxis, instead of tracheotomy, the more easy and less dangerous operation of "interthyrocricoid laryngotomy," *i.e.*, the cutting (and introducing a tube through) the thyrocricoid membrane, may be performed in appropriate cases, and under pressing circumstances, with one properly-directed plunge into the larynx, though, as a rule, the air-

passages should not be incised at any place without having first dissected overlying structures, thoroughly laying it bare, and all bleeding having been stopped.

5. Slapping a person with a foreign body in his air-passages on the back, or in front of the chest, is the common procedure to produce ejection, and, when not successful alone, is combined with inclined position, either complete inversion of the body or at least the head down, with the body prone on a bench, an inclined plane, etc., either on the belly or the back, according to the circumstances of the case. Compression of the chest by bandage has been used as an auxiliary means for enabling the expiratory current to eject the foreign body. The slap is given at the same time that the patient, after a deep inspiration, coughs or rapidly empties his lungs. Such manoeuvres are sometimes successful, especially when the size, form, and weight of the foreign body are favorable for ejection, but they are always dangerous without tracheotomy, on account of the possibility of the occurrence of glottic spasm: instruments should therefore always be at hand to open the windpipe in case serious dyspnoea occurs. I may mention Dr. Padley's method, in which, in addition to the inversion of the body during inspiration, the supine position favors the exit of the foreign body, through the broad end of the triangular rima glottidis being below. The method is the following. A strong bench having been fixed, with the legs of one end on a couch and the others on the floor, the patient is made to sit on the upper part of it, with his knees fixed over the end. He is then directed to lie back upon the inclined plane. The great advantage of this position is that it enables the patient by his own effort to regain the upright position by using his knees as a fulcrum, and thus diminishes the danger if spasm supervenes.

All of the procedures which I have mentioned as being dangerous on account of being liable to cause spasm of the glottis, lose this element of danger when tracheotomy has been performed. The chances of success of some of them are very much increased by the operation; other procedures for extraction it is impossible to carry out except after tracheotomy. I have explained why I am opposed to giving emetics in cases of foreign bodies in the air-passages; but after the windpipe has been opened they can be safely resorted to,

if otherwise indicated. The best emetic under these circumstances is that recommended by Riegel, in Ziemssen's Cyclopædia, viz., apomorphine applied hypodermically; but any quickly-acting emetic may be employed.

The finger is an exceedingly useful means for both recognition and extraction of foreign bodies in the air-passages. Both before and after tracheotomy it has in many cases served a better purpose than any additional instrument could have done. Altogether it is wonderful, and must be tried to be fully realized, how far into the air-passages an expert's finger can occasionally penetrate. *Exploration with the finger should in no appropriate case be omitted.* We can always assure ourselves by means of it that the epiglottis is not pressed down upon the air-passage, and that the way is clear to the laryngeal aperture. After tracheotomy, the finger introduced into the wound may push a foreign body upward into the mouth; it may, as first pointed out by Sands, of New York, reach downward to the bifurcation.

Favier's well-known experiment proved that substances of every kind and of every shape introduced into the trachea of living dogs were forcibly expelled after the operation of tracheotomy, no matter whether the animal was lying down or standing up, or under what circumstances the experiment was performed; and all surgical experience teaches that in the human subject spontaneous expulsion of an unimpacted foreign body in the air-passages follows the operation as a rule. If it does not do so immediately, it does frequently in a subsequent fit of coughing. Sometimes the foreign body is found without any one's knowing when or how it was expelled, sometimes it presents itself at the lips of the wound, sometimes it comes into the mouth or passes down the œsophagus, and either of these things may not happen until after the lapse of a day or two. If it becomes necessary to aid in the expulsion, turning the patient upon his face and striking his chest or back with the hand, blowing into the wound so as to compress the air within the trachea that it may gather expulsive force in the coughing which follows, aspiration with or without catheter, as well as induction of vomiting by apomorphine, are recommended. As a tube might interfere with the expulsion, it is best to keep the edges of the wound

apart by a double blunt hook, or two hair-pins properly bent, or some other contrivance for retraction, covered only by a piece of gauze, and especially to hold the wound open during the coughing and suffocating efforts.

6. In the case of a foreign body seated in the air-passage *above* a point where it may be opened, tracheotomy may be indispensable for the purpose of giving air access to the lungs, to prevent asphyxia, or, in the case of a movable foreign body lower down, to prevent fatal spasm of the glottis by upward movement. This is what I call prophylactic tracheotomy, and, in accordance with my fourth maxim, it should be performed at the slightest indication in every case in which laryngoscopic or other removal is impossible. In other cases, especially chronic cases, immediate suffocation may not be threatened, but a cutting operation be indicated, because access must be obtained to the parts in order to remove the foreign body; or a prophylactic tracheotomy may already have been performed, but spontaneous expulsion may not have occurred, and aspiration, and every other safe attempt, even instrumental, at extraction, by way of the tracheotomy wound, may have failed, and a further operation be necessary. In these cases the precise place of operating is a matter of choice. The only rule for selection that has hitherto been given is to operate at the nearest possible point to the body to be extracted. This, though very good for a general direction, is not a definite guide for special cases, and sometimes cannot be followed with safety or satisfaction: for instance, I object to the advice to divide the thyroid cartilage in every case in which the body is impacted in one of the ventricles of the larynx, because sometimes a much more advisable operation may be successful, etc. I have therefore formulated my opinion in my sixth maxim, viz., that the preferable operation for extraction of impacted foreign bodies which are not lower down than the superior laryngeal cavity is subhyoidan pharyngotomy, and for those lower down, tracheotomy, either high, *i.e.*, crico-tracheotomy, or low, *i.e.*, tracheotomy below the thyroid body. Both high and low tracheotomy are well enough known, but I desire to say here a few words on the subject of subhyoidan pharyngotomy. This operation has not as yet been performed very often, and is by many misapprehended.

I described it in 1864,* at a time when the account of but a single case had been published; it had, however, been previously described and highly recommended. Since then I have performed it three times: once for the removal of a morbid growth, and twice for that of impacted foreign bodies. It differs from what may be called "suprathyroid laryngotomy" by opening the air-passage above the free border of the epiglottis, as originally directed, though never performed, by Malgaigne, but is often confounded with this operation, which was first recommended, but also never performed, by Vidal de Cassis, and called subhyoidan laryngotomy or thyro-hyoid laryngotomy. Subhyoidan pharyngotomy was first practically tested by Prat, in 1859, who successfully removed by its aid a fibroid tumor from the back of the epiglottis; while suprathyroid laryngotomy, severing the epiglottis from the thyroid cartilage, was first successfully performed by Follin, in 1863, for the extirpation of a number of polypi situated on the mucous membrane covering the upper anterior surface of the arytenoid cartilages.

Of two very able operators in this city, curiously enough, Dr. George M. Lefferts (*New York Medical Record*, Dec. 15, 1874), who performed subhyoidan pharyngotomy for the removal of a brass ring from the larynx, entitles his report "Removal by Subhyoidan Laryngotomy," while Dr. Clinton Wagner (*New York Medical Record*, May 21, 1881), who performed suprathyroid laryngotomy for the removal of the epiglottis, entitles his operation "Subhyoidan Pharyngotomy." Subhyoidan pharyngotomy consists in an incision along and parallel to the lower edge of the hyoid bone, through the skin and subcutaneous tissue, the fascia and fibres of the platysma myoides, the inner portion of the sterno-hyoid and hyo-thyroid muscles, the hyo-thyroid membrane, and the mucous membrane between the root of the tongue and the epiglottis. The superficial incisions are made longer than the deep, so that the wound may taper down, for instance, from five or six centimetres to about three centimetres. Though usually no important vessels are encountered, larger branchlets should be ligatured or twisted. Care must be taken not to cut the epiglottis; the occurrence of

such an accident would frustrate the object of the operation; the inspection of the larynx would be impossible, and the wound far more serious than the operation otherwise is. Careful palpation of the hyoid bone outside, and the insertion of the finger—as far down as possible—through the mouth, will, in most cases, approximately at least, determine the relative positions of the tongue and epiglottis. Before incising the mucous membrane, not only should these relative positions be ascertained, but, by means of a tenaculum embedded in the areolar adipose cushion of the epiglottis, the latter must be forcibly pulled downward, and, if this be not sufficient, the hyoid bone must be pulled upward, so that the epiglottis may escape section. In the most recent case in which I performed the operation, I successfully followed the plan of Lefferts, who says, "To insure still further certainty, a small incision was made into the left lateral projecting fold of mucous membrane, and a director was passed inward, and then directly across, coming out at a corresponding point upon the opposite side of the wound, and through the projecting mucous membrane at that point. It should therefore lie in the groove or furrow between the base of the tongue and the epiglottis; and a digital exploration by the mouth confirmed the point. Nothing now remained in order to complete the operation but to incise the tissues lying over the director. This was done, the direction of the knife being upward and backward, and the pharynx was opened." On seizing the epiglottis and turning it forward or drawing it out of the wound, there is nothing to prevent our inspecting, or operating in, the larynx.

Semeleder has suggested that if the incision be made at one side instead of in the middle, although it would become more difficult to avoid injuring the superior laryngeal artery and nerve, an incision only one to one and one-fourth inches long would give us a very good view of the ventricular fold and vocal band of the opposite side, and allow of the introduction of instruments for surgical purposes.

The final object in view being the extraction of an impacted foreign body, no matter what operation or operations may already have been performed, *i.e.*, first, prophylactic tracheotomy, and, secondly, subhyoidan pharyngotomy or high or low tracheotomy, what remains to be done

* See prize essay on Laryngoscopic Surgery illustrated in the Treatment of Morbid Growths within the Larynx. Philadelphia, 1866, p. 15, *et seq.*

may test to no inconsiderable extent the skill, ingenuity, and fertility of resource of the operator. Of the three steps, of the entire operation here indicated, the first, *i.e.*, prophylactic tracheotomy, or, as the case may be, prophylactic interthyrocricoid laryngotomy, may, especially in a chronic case, have been taken long before the other two, or it may immediately precede them, in order to maintain uniform respiration during their performance or expected difficulty afterward; the second step, *i.e.*, the gaining access to the impacted foreign body, and the third, *i.e.*, the extraction, must usually follow each other immediately. Whether pharyngotomy or laryngotomy be performed, it is desirable to have the opening made large enough for further procedure. If, after the operation, the foreign body is not in view, and the precise point of its impaction not known, the finger or a probe or searcher must be used. I have already referred to the fact that very much can be done with the finger, and almost any instrument applicable for extraction may first be used as a searcher. It has been suggested that all instruments ought to be warmed before introduction, as then being less likely to cause spasm than if cold. In exceptional cases the nature of the foreign body may be such, or it may be so firmly embedded in the tissues, that some of the latter may have to be cut, or the foreign body be fractured, before it can be extracted. The various instruments for removal are either of the nature of forceps for directly grasping the body, or of probes with a blunt hook or projecting knob at the end, which is to be pushed past the body and then drawn upon to dislodge it. Stout copper or other flexible wire has several times done good service, bent to suit the case. The number of forceps, different in length, thickness, shape, and mechanism, that have been devised and profitably used in one case or another is legion. For most cases the ordinary nasal, pharyngeal, and laryngeal polyp-forceps are sufficient.

In conclusion, I desire to reiterate the propositions: 1, that every physician ought to acquire a sufficient degree of practical familiarity with the use of the laryngoscope to apply it in cases of foreign body in the air-passages; and, 2, that every physician, whether he be a general practitioner or a specialist in any department of medicine or surgery, ought to be prepared and

willing to perform tracheotomy in every urgent case.

THE PATHOGENESIS OF SECONDARY TUMORS.*

BY HENRY WILE, A.B., M.D.,
Rochester, N. Y.

IN the present paper I give an account of a series of experiments which bear an important relation to the subject of the "Pathogenesis of Tumors." The work was done in the pathological laboratory of the University of Pennsylvania, and at the suggestion of my teacher in histology, Dr. H. F. Formad.

Some of the results of my work have already been announced by Dr. Formad, in his paper on the "Etiology of Tumors," read before the Pathological Society of Philadelphia, April 28, 1881.

While engaged in the study of normal and pathological histology, I, like other students in morphology, was impressed by the similarity which the microscope revealed as existing between normal and pathological tissues, namely, the similarity of the cellular constituents of normal tissues and morbid growths. This likeness in constituent elements suggested an analogous mode of development; I therefore assumed that as the normal tissues grow by virtue of the innate cell-activity which characterizes the cell-components of the tissues, pathological tissues develop after a similar process.

When particles of tumors are carried by the lymphatics, they become arrested in the glands, and there usually give rise to secondary growths. This is supposed to be the case with the carcinomata.

* Inaugural thesis to which the alumni prize was awarded at the commencement of the Medical Department of the University of Pennsylvania, 1882.

In the *Medical Record* for January 14, 1882, will be found an abstract from certain experimental work performed by Dr. M. T. Prudden, of New York. This work, on the subject of "The Origin of the Pus-Cell in Acute Inflammation," was published in full in the *American Journal of the Medical Sciences*, October, 1881.

Dr. Prudden discovered that adult cartilage transplanted may not only not be absorbed, but may continue to grow. In the *Medical Record* this result is given, and an application of it is made to Cohnheim's embryonal theory of tumors; also a comparison is instituted between the experiments of Dr. Prudden and those of Leopold, which latter were published in *Virchow's Archiv*, August, 1881. But what the *Record* claims for Dr. Prudden was published as my work, six months prior, in the Proceedings of the Pathological Society of Philadelphia, April 28, 1881, as stated above, and appeared in print in July of the same year, in Dr. Formad's paper.

To the priority of this discovery, therefore, I would lay claim (together with the other results of my work), and I desire to correct the impression which the writer in the *Medical Record* would convey, namely, that Dr. Prudden was the first to make the observations above referred to.

The tumors which are supposed to develop secondarily, through metastasis, by means of the blood-vessels are the sarcomata. These, pathologists say, never affect the lymphatic glands secondarily. The blood-vessels in these tumors, having no walls, are mere channels, so that particles are easily carried off, and find their way directly into the circulation, without first going through the lymphatics.

This immediate contact with the circulation also accounts for the fact mentioned by Acker,* that secondary sarcoma develops with greater rapidity and energy than secondary carcinoma. Yet the walls of the veins present no obstacle to the destructive encroachment of any truly malignant tumor; they are soon perforated, and the neoplasm creeps along the lumen, and is thus brought into immediate contact with the circulation. Once here, under certain conditions, such as a sudden rise of blood-pressure, a blow, etc., a particle is broken off, and, being swept along by the current of the blood, finally acts as an embolus.

Should the embolus travel in the portal circulation, it generally becomes arrested in the liver; should it be carried by the systemic veins, it usually gets lodged in the lungs.

These principles rest upon experimental and clinical facts.

Cohnheim also claims that secondary tumors are the result of the development of tumor emboli, and he concludes that as the periosteal emboli in his experiments disappeared, there must have existed in the organism of the animal used some power to cause this disappearance. This he calls the power of physiological opposition. According to him, therefore, an individual with metastatic tumors lacks this power, *i.e.*, the tissues surrounding the tumor embolus do not possess a sufficient amount of this power to prevent the development of the tumor embolus.

My experiments having shown, *first*, that the periosteal embolus, contrary to the experience of Cohnheim and Maas,† does not disappear in properly-executed experiments, and, *second*, that tumor particles behave in a similar manner, it is evident that the alleged physiological opposition in the tissues of the organs plays no part in the process of metastasis, but everything

depends upon the innate vital energy of the embolus.

My experiments further demonstrate that the growth of secondary tumors depends upon the proliferation of the cells of the emboli, and is due exclusively to the emboli themselves, and not to any infection or impression made upon the surrounding tissue.

These thoughts presented themselves in the form of the following questions:

First. Whether tumors can be inoculated by virtue of any specific property, namely, whether they are due to a specific poison residing in juices.

Second. Whether tumors are due to specific cell life, differing in principles of growth and development from that of normal tissues.

Third. Whether tumors are the outgrowth of superfluous or misplaced tissues in the body, and which grow by virtue of ordinary cell life.

For the purpose of acquiring some satisfactory answers to the above questions, I undertook a series of experiments, which gave rather surprising results,—results which, though not in accord with those of distinguished investigators, appear to throw light upon the development of primary and secondary tumors, and, in addition, offer experimental proof of the identity of normal and pathological cell life.

CHAPTER I.

METHODS OF WORK.

The experiments were performed in the pathological laboratory of the University of Pennsylvania, and under the immediate supervision of Dr. H. F. Formad, Demonstrator of Morbid Anatomy in said laboratory.

In order to present clearly the details of experimentation, it will be necessary to describe each class of experiments separately, and the first class to which I would direct attention are those performed with *tumor juices*. The animals used were dogs, rabbits, and chickens. Most of the material for experimentation was derived from fragments of tumors removed in the clinic at the University Hospital, and immediately after the removal of the tumor a small piece was taken therefrom and scraped with the back of a scalpel. In this way an average amount of about ten minims was obtained, care always being

* Deutsch. Archiv Klin. Med., xi. 1873, p. 180.

† Virchow's Archiv, vol. lxx., 1877.

taken to exclude any particles of the growth. The juice thus obtained was injected by means of a hypodermic syringe into different parts of the animal.

The next class of experiments are those performed with *tumor particles*, which were either transplanted subcutaneously or by means of the jugular vein. As these were made in a manner identical with those in which normal tissues were used, a description of the latter will cover both classes of experiments.

This third class of experiments consisted in the introduction of normal tissues into the circulation.

After thoroughly anæsthetizing the animal, I cut away the hair on the neck in the region of the jugular vein, either right or left, and made a longitudinal cut through the skin and different fasciæ. Coming down upon the external jugular vein, and carefully dissecting it out of its sheath, I passed a grooved director under it, and by pressing the vein between the thumb and the grooved director I was able to control the current of the blood in the vein (see Fig. 1). I then caught up the

FIG. 1.



vein with a pair of forceps, and with a pair of scissors cut obliquely downwards into the vein, below the insertion of the grooved director, thus making a V-shaped incision, with the mouth of the V in the direction of the current. After the cut was made the vein was compressed by an assistant, and the circulation in it temporarily arrested. I next cut down on either the tibia or ulna, where these bones are most superficial, and, pulling aside the tendons, carefully dissected up a small piece of periosteum. The periosteum thus removed was first pressed between the back of my hand and the blade of a scalpel, so as to remove all blood and coagula, and then carefully examined in order to make sure that no bone, tissue, or any foreign

matter was attached to it. (An extra similar fragment was examined microscopically, and found to be composed exclusively of the elements of periosteum.) Then with a tenaculum I caught up the edge of the cut, and with a small pair of forceps inserted the fragment of periosteum. After this the edges of the cut were seized with the forceps, and thus the opening in the vein was temporarily closed. Then directing my assistant to remove the pressure from the vein, the blood would rush down its accustomed channel, sweeping before it the periosteum or any other tissue particle that had been introduced. Fearing that the embolus might not be carried down to the heart if I ligated the vessel in the usual way, by passing a ligature around it above the cut, I tried another mode of ligation which suggested itself, and which proved most successful: while my assistant held the edges of the cut securely with the forceps (see Fig. 2), I passed a ligature directly under the blades of the forceps, taking in only that part of the vessel-wall around the incision (see Figs. 3 and 4).

FIG. 2.

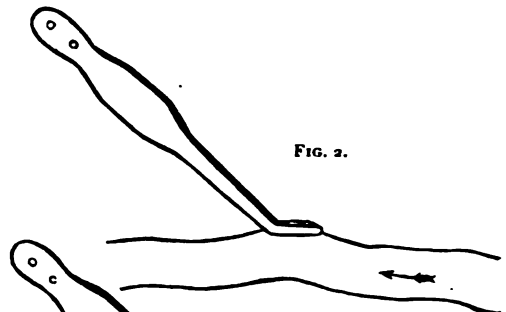


FIG. 3.

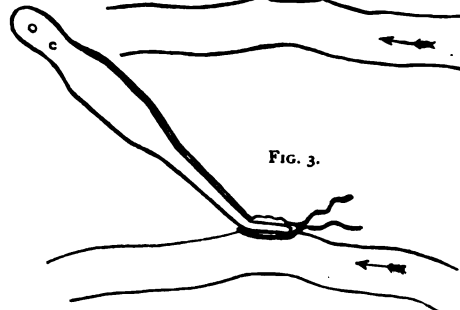
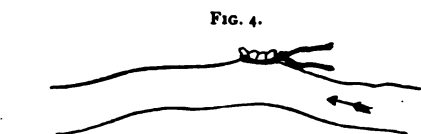


FIG. 4.



The advantage of such a mode of ligation is that it allows the circulation in the vessel to be continued, so that if the embolus should be caught anywhere it will ulti-

mately be carried onward. After ligation the wound was carefully washed out, cleared of coagula, and then sewed up with silk sutures.

In like manner other normal tissues and tumor particles were introduced. I would also state that the transplantations were made upon the same animals from which the tissues were taken, and not from one animal to another. But in the tumor experiments the particles were transplanted from man to animals. The autopsies in each case were made immediately after the animals were killed, and the specimens were put into preserving fluid, which was either alcohol or chromic acid. Alcohol was to me the most satisfactory, as a too long exposure of specimens to chromic acid renders them brittle.

(To be continued.)

SOME THERMOMETRIC OBSERVATIONS IN A CASE OF TRAUMATIC DIPHTHERIA OF THE ORBIT.

Read before the Philadelphia County Medical Society, April 12, 1882.

BY ALBERT G. HEYL, M.D.,

Ophthalmic Surgeon to the Episcopal Hospital.

I HAVE to offer a clinical observation and a practical suggestion deduced therefrom. The clinical observation is drawn from the thermometric record of a patient from whom I removed the contents of the left orbit on account of a melanotic sarcoma. This tumor was presented to the notice of the Society some weeks ago, but, as no special mention was made of the diphtheria which invaded the orbit, I beg leave to make record of it in this connection. The orbital contents were removed December 31, 1881. The case did well until January 3 or 4, when a whitish infiltration was noticed on the lids, where the conjunctiva had been denuded in the removal of the eyeball. The orbit itself was not involved at this time, the purplish-red, glistening periosteum being apparently untouched. In a few days the orbit became involved. Thick masses of some purulent, slough-like material were formed in the orbital cavity, whether within the structure of the periosteum or on its surface could not be told from observation. This attack of traumatic diphtheria subsided, and the patient was apparently convalescing. I did not see her on January 13, but on the fol-

lowing day found that the orbital walls were again covered with the diphtheria deposit, which in a few days subsided under treatment. I had here brought to my notice an illustration on a somewhat extended scale of a characteristic of the diphtheria deposit which I had before observed in diphtheritic conjunctivitis, viz., its tendency to form anew, or rather the tendency to the formation of new deposits,—one deposit having gone through certain retrograde changes, and almost disappeared, being succeeded by another.

There is reason to suppose that this characterizes the diphtheria process whenever it occurs, although apparently very little emphasis is laid upon the phenomenon by writers on this disease.

One reason of this, no doubt, is the imperfect knowledge we possess regarding the nature and treatment of this disease: could we control its earliest manifestations, doubtless this recurrent characteristic would be oftener noticed. In connection with this clinical fact it was a matter of interest to examine the temperature record, which was kindly copied for me by Dr. Neilson, who, as surgical resident, had charge of the case. The operation was performed December 31, 1881. On the evening of January 1, 1882, the temperature was 100°. This was the traumatic fever temperature. On January 2, the evening temperature was normal. On January 3 it was 99°, and on January 4, morning, 99.5°. This rise corresponded to the first diphtheria deposit. On the 9th and 10th the temperature became normal. On January 12 it was 99.5°, and on the 14th, 100°. This corresponded to the second deposit. It may be seen, then, that the deposits gave indication of their presence through the thermometer. The practical deduction which may be drawn from this is that in cases where the deposit occurs in localities not readily accessible to the eye, some knowledge of its progress may be obtained from the thermometer. In illustration of this I shall quote the following case, taken from Müller's article on Tracheotomy: * Fourteen days after the operation, patient was doing well; temperature was normal; respiration normal; expectoration thin. Nineteen days after operation, the temperature rose; dyspnoea rapidly increased, followed in three days by the expulsion of a tracheal membrane. Hence, doubtless, a

* Archiv für Klinische Chirurgie, 1871.

recurrent deposit was taking place, which gave warning of its presence by rise in temperature.

AN INTERESTING CASE OF CORNEAL REPAIR.

Read before the Philadelphia County Medical Society, April 12, 1882,

BY B. ALEX. RANDALL, A.M., M.D.

MR. PRESIDENT AND GENTLEMEN:—By the kind permission of Drs. Norris and Risley, I am able to bring to your notice a case which has been for many months past under treatment at the Eye Dispensary of the University Hospital, presenting some interesting features.

The patient, a colored man about 60 years of age, born in Delaware, but for many years past living on the Eastern Shore of Maryland, came to the Dispensary on June 8, 1881. He complained that his left eye had been inflamed since the preceding Christmas, with burning and itching of the lids, discharge of muco-purulent matter, and "misery" on that side of his head; worse at night. His fingers were distorted by rheumatic contractions of the tendons; he had suffered much with chronic rheumatism, and the eye-trouble followed shortly a desperate attack of pneumonia. The right eye had been lost by a similar inflammation many years before; its cornea was opaque and bulging, with considerable deposits of brownish pigment in its substance, and it possessed mere quantitative perception of light.

The left eye was quite sensitive to light, the lids thickened and their conjunctival surface velvety. The limbus of the cornea was surrounded by a dense, brawny circle of swollen conjunctiva, deep red in color, with considerable brownish pigmentation. The entire circumference of the cornea was invaded by a deep serpentic ulcer, involving at least half its thickness, which at one point at the inner margin, and at another above, had perforated all the laminae, uncovering the periphery of the iris, and opaque threads, possibly of vitreous, hung from the openings. The floor of the ulcer was grayish, irregular, with a moderate quantity of discharge very unhealthy in appearance, without a trace of reparative action. A central island of cornea remained, irregularly circular in shape, about 8 mm. in diameter, with abrupt, perhaps undermined, margins. Through-

out its greater part it was bluish white, but semi-transparent above, permitting a view of the contracted pupil.

R Boracic ac., Collyr. of atropine. Compress and bandage. Cinchonidia sulph., gr. iij t.d. To return for daily treatment.

On the following day the ulcer looked cleaner and better, but there was little or no trace of repair. Had now very little pain about eye and head, which had before been nearly constant. Tinct. opii was instilled as a stimulant. On the next day there was distinct new formation and vascularization of the cornea at the inner portion, and the island of original cornea had cleared slightly. Week by week the new formation of cornea slowly advanced, while the island of old cornea decreased *pari passu*. By the last of September it had but about one-half of its former diameter, while the new-formed cornea, lying at a lower level than the old, was well vascularized, uniform, and reasonably smooth. About the middle of October the reparative process had reached the pole of the cornea; the island remaining only on the temporal side. The cornea seemed to be bulging forward, and the anterior chamber appeared to be abolished. At this time a yellowish coloration appeared in the new tissue below, and on close examination this was seen to be slightly swollen and fatty-looking, but well vascularized. Whether the yellowish color was due to exudation in the anterior chamber, or in the cornea itself, could not be determined. Two weeks later, this coloration had spread and deepened in tone, and a reddish point had appeared near its centre, apparently a granulation from the iris forcing its way through the cornea. This conclusion seemed confirmed when, after a day or two, this portion began to flatten, as if drawn in by the contraction.

Up to this time the new-formed cornea, through the rest of its extent, had steadily increased in size, following on the advance of the destruction of the old tissue, and had become clearer, although the iris and pupil were hardly discernible. Now the haze at the pole increased, and there was a threat of bulging. On the 5th of November the cornea was found to have yielded, and there was a delicate bubble-like protrusion of the membrane of Descemet, threatening to burst. Under careful pressure the danger was averted, and the thin

tissue regained its former thickness. But I must not weary you with the further details of ups and downs in the slow progress of the case, interesting as they have proved to me. The series of drawings which I submit will show better than words the various phases which it has undergone. Until the last of January the advance was continuous, varied rather than interrupted by the thinning of successive portions of the cornea, which would threaten to rupture, but would grow firm again under careful treatment. At this time all trace of the island of old cornea had disappeared, the new cornea was clearing, the pupil and the structure of the iris had come into view, and fingers could be counted at nine inches. The pupillary margin was now seen to be totally adherent to the anterior capsule, and there was a white spot at the anterior pole of the lens.

A week later the cornea had again clouded, obscuring the view of all behind it, and the eye was in all respects worse.

About the middle of March there was a threat of an abscess in the lower portion of the cornea, gradually disappearing, but on April 6 the eye was again worse, and the cornea at the threatened point had thinned to a mere film, and rupture seemed again imminent. To-day the danger has been transferred from this point to another at the lower and outer limbus, where there are signs of weakening and distention. The final result of the treatment is, therefore, still in doubt, but, as the result of the almost daily changes which the eye has undergone, we have a new cornea replacing that which had sloughed, made up of true corneal tissue, which has been clear enough to afford some useful vision, and it is not unreasonable to hope that there will ultimately be saved a modicum of vision, small, indeed, but very valuable to the unfortunate patient.

A NEW ADJUSTABLE TRIAL-GLASS FRAME.

*Read before the Philadelphia County Medical Society,
April 12, 1882.*

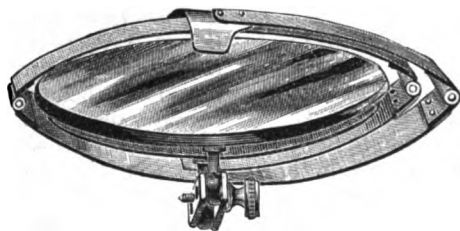
BY B. ALEX. RANDALL, A.M., M.D.

ABOUT a year ago my attention was directed by Dr. Risley to the need of a good adjustable frame for the trial-glasses in refraction work. The ordinary frames, without adjustment, serve well in many cases; but the need of variation of the height

and separation of the lenses is often felt, even with adults, and with children the frame must usually be held in place by the hand. Most of the adjustable frames consist of a horizontal bar, upon which slide two semi-circles opening downward for the reception of the lenses, which are held in place by spring clips. The frames are generally cumbersome and inconvenient, and the placing or removing of a glass usually demands the use of both hands. The frames of Dr. Green's and Dr. Risley's optometers have the semicircles opening upward, so that there is no difficulty about the placing or withdrawing of the lenses, and both have an adjustment for the distance between the centres; but in Dr. Green's this movement is inadequate. In Dr. Risley's optometer the needs are met, but in a shape entirely too heavy to be applicable to a spectacle-frame. Each of the latter instruments has three grooves for the reception of the lenses, a feature often of great value.

The importance, in all examinations with glasses, of having the eye look exactly through the optical centre of the lenses is recognized by every one who has given it attention; and as the distance between the pupillary centres varies from about 50 to 66 millimetres in persons ordinarily subjected to test by trial-glasses, a movement of 16 mm. is necessary for approximate centring. An adjustment of the height of the centres is also at times necessary, owing to the variable relation of the eyes and bridge of the nose. These adjustments, with arrangement for three lenses at once, have been the requirements presented for fulfilment in the new frame.

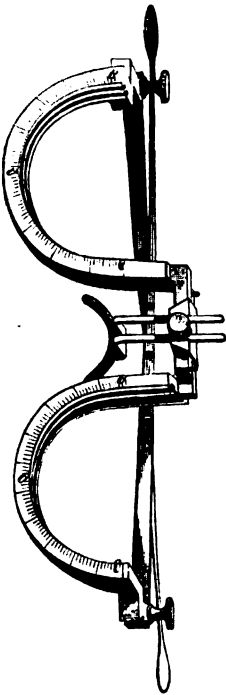
In the new frame the cumbersome bar of the frame of Jaeger is replaced by a little



block of truncated wedge shape, which forms the centre of the instrument. Through a rectangular mortise 3 mm. in width by 4 mm. in height, perforating the block from side to side, two narrow bars 22 mm. long slide horizontally past each

other, all other movement being prevented by the close fit of the mortise. Each of these bars, bending at right angles, passes vertically down to become continuous with a graduated semicircle with its concavity upward, which is to hold the trial lenses. Each semicircle consists of a half-tube 7 mm. in length and 35 mm. in internal diameter, with a groove near its anterior and posterior surface respectively, for the reception of the flanges of the trial-lenses, while the equivalent of a third groove is furnished by a set of three hooks on its front. The ridge between these grooves is 3 mm. broad, and is the exact continuation in position and size of the vertical arm, which is twice the width of the horizontal bar.

We have, then, the graduated semicircles suspended by the vertical arms from the horizontal bars, and capable of being approximated or separated by the movement of these bars through the central block. This block being but 5 mm. in breadth below, the semicircles can be brought within 5 mm. of each other, giving a distance between the centres of 50 mm. They can again be separated so as to give a distance of 66 mm. between the centres. Any further amplitude of movement could readily be obtained by lengthening the horizontal bars; but this has seemed sufficient. As the horizontal bars correspond with the spaces between the grooves of the arcs (this is



not correctly shown in the cut), they do not interfere, even when centred at the narrowest, with the glasses placed in these, except when a very thick lens is placed with its prominence inward. All necessity for this is avoided by the use of the hooks in front, except when three very thick lenses are simultaneously employed with the frame at its narrowest. Then a little care is neces-

sary to place or remove the middle glass; but $-20^{\circ} \odot -8^{\circ} \odot \text{Pr. } 15^{\circ}$ can be thus used, —a combination never exceeded, even in Dr. Green's combination sets of lenses.

The frame was designed to be used with a handle like that of the binocular ophthalmoscope of Giraud-Teulon, and this will often be found the best way to employ it. If the patient sit in an arm-chair, it requires hardly any effort to hold the frame in position, the elbow resting on the arm of the chair. When preferred, however, the bows of the ordinary frame are readily substituted, or, as in the instrument here presented, added so as to be readily detachable, so that it can be used in either way. When used with the bows, the adjustment for height, so readily made by the patient's hand in the other case, has to be accomplished by a mechanical contrivance. Only when very widely centred is this necessary, as the semicircles themselves will generally rest on the sides of the nose and hold the frame in good position. An adjustable bridge has therefore been added, carried by a slotted bar sliding vertically in the same grooves, and clamped in any position by the same binding-screw that would hold the handle, were that employed. This bar is bent backward at an angle of forty-five degrees, so that, while adjustable vertically for any height, its pressure comes nearly at right angles to the line of the nose, and it has therefore little tendency to slip. It is very readily adjusted, and even when not necessary makes the position of the frame more accurate and secure. The frame is made by Mr. Ivan Fox, optician, 1632 Chestnut Street.

A CASE OF RENAL ASTHMA.

*Read before the Philadelphia County Medical Society,
April 19, 1882,*

BY JOHN H. PACKARD, M.D.

IN July, 1881, while at Cape May, I was called one night at about 11.30 to the hotel opposite my house to see a gentleman about 50 years of age. I found him suffering from intense dyspnoea; his face and lips pale, with an anxious expression, and thready pulse; his whole surface bathed in cold sweat. He was sitting in a chair, leaning forward against the foot of his bed.

On inquiry, I was told that he had not long returned from a trip to Europe,

and that in the spring, previous to his departure, he had been told that he had something the matter with his kidneys. He had had a similar but much less violent attack of difficulty of breathing on the evening previous to my seeing him, but on retiring to bed, an hour before I was called, he had remarked that he felt better than he had for a long time.

I had mustard plasters freely applied to his chest, and his feet were bathed in hot mustard-water. I also ordered a mixture containing liq. morph. sulph., sp. ætheris comp., and syr. tolutani.

After several doses of this had been given, at intervals of fifteen minutes, his difficulty of breathing still continuing, I began cautiously to administer sulphuric ether by inhalation. Some slight relief was given. In order to greater convenience, I suggested his getting into bed, and with some assistance he rose, walked round to the side of the bed, and lay down. I then began again to give the ether, very cautiously, holding the towel some inches above his face. But before he had taken more than a very few inspirations I saw a change, and his efforts at breathing grew much less vigorous. Throwing away the towel, I instantly made attempts at artificial respiration, and called for some brandy, but in a very few moments he was dead. I have been led to report this case because the fatal result was ascribed by his former physician to the ether,—at least so I was informed from several sources,—and the family were not only distressed at the idea, but were naturally inclined to blame me.

My firm belief is that death was the inevitable issue of this case, no matter what treatment had been pursued, and that the cause of the dyspnoea was the effect upon the respiratory centres of some form of uræmic poison. I freely admit that this was an after-thought, and that at the time I did not distinguish that I had not to deal with a case of ordinary but unusually severe asthma.

Let me conclude by making quotations from two eminent authorities on this subject: "One must reckon amongst uræmic symptoms those asthmatic attacks which sometimes assail the subjects of chronic renal affections a long while before their death. These attacks of asthma, like all neurotic asthmas, come on in paroxysms, with intervals of complete freedom, and

are most frequent at night-time. I must defend the uræmic origin of these attacks against the opinion which Rosenstein entertains as to their nature. I have observed them in individuals in whose respiratory and circulatory organs no other explicable cause for such exceedingly violent fits could be discovered than bronchial spasm; and the real cause of this spasm, I believe, was uræmia."*

Dr. Burney Yeo (*Practitioner*, July, 1881, p. 8), in a communication on the pathology of asthma, speaking of the nervous element in that disease, says, "Let me illustrate this remark by reference to a case of so-called 'renal asthma.' Here we have blood-contamination as an obvious cause of the nervous disturbance, and the chain of phenomena is tolerably complete. A patient, towards the closing scenes of Bright's disease, with contracted gouty kidney and hypertrophied heart and thickened arteries, gets sudden attacks of alarming dyspnoea, arising apparently without any cause, sometimes when sitting tranquilly by his fireside after dinner, sometimes in the middle of the night, or at any other time. He has no cough, no moist râles, but expiration is difficult and prolonged, just as in the usual form of asthma; moreover, if you let him inhale chloroform vapor, the paroxysm of asthma disappears. Now, it would seem," etc.

He says, however, "The urinous odor in the breath is always very marked in these cases."

ACCIDENTS FROM THE USE OF JABORANDI AND PILOCARPINE IN DISEASES OF THE EYE.

Read before the Philadelphia County Medical Society, April 26, 1882,

BY M. LANDESBURG, M.D.

IN several articles I have successively brought before the profession the results of my experiments with jaborandi and pilocarpine in the various morbid conditions of the eye. The elucidation of the real value of these remedial agents having been the only aim of my investigations, I have reported with an unbiassed mind the history of the cases under observation, pointing out the successes as well as the failures, in order to enable the reader to judge of the merits and demerits of the

* Bartels, Ziemssen's Cyclopædia, vol. xv. p. 111, Am. ed.

new remedies from conclusive facts. The latter speak evidently in favor of jaborandi and pilocarpine. They have proved to be a highly valuable addition to ophthalmic therapeutics, and to act almost as a specific in certain affections of the eye, in which the usual treatment had failed to bring about the desired effect. Abstraction has been made from five cases, which I shall consider farther on; I have not observed in any other of the more than one hundred cases of the various affections of the eye, in which I tried either jaborandi or pilocarpine, from the extensive use of these drugs, any unfavorable after-effect upon the eye. Only in four cases of detachment of the retina, and in one case of serous choroiditis with consecutive detachment of the retina, *the remarkable incident of rapid development of cataract occurred* after the lens had remained perfectly transparent during the whole course of treatment and for a short time afterwards.

The five cases under consideration are as follows:

Case I.—Mrs. P., 31 years old, came under my treatment, October 5, 1878, for detachment of the whole inferior half of the retina of the left eye. Humor vitreous was free. Vision was reduced to counting fingers at ten feet. Seventeen subcutaneous injections of half a grain of pilocarpine had the effect to increase vision to $\frac{3}{20}$. Retina reattached, with the exception of a very small segment in the inferior quadrant. The condition remained unchanged until April 10, 1879, when I noticed beginning cataract and vision $\frac{1}{100}$. Detachment of the retina had not progressed. From this time forward the opacity of the lens progressed very rapidly. The cataract was mature in the middle of June.

Case II.—C., carpenter, 36 years old, came under my treatment, October 24, 1879, with detachment of the inferior half of the left retina and with large opacities of the vitreous. The treatment with subcutaneous injections of pilocarpine had no effect. In the fifth week after patient had been dismissed, opacity of the lens developed, which evolved in the course of four months into *cataracta nigra* (black cataract).

Case III.—B., merchant, 46 years old, sought my advice, April 18, 1880, on account of fresh detachment in the upper-inner quadrant of either retina. There was myopia $\frac{1}{2}$, with vision of the right eye $\frac{1}{100}$, and of the left eye $\frac{1}{8}$. Humor vitreous was free. On fifteen subcutaneous injections of half a grain of pilocarpine, the retinal detachment became flatter, and vision of the right eye increased to $\frac{1}{8}$, and of the left eye to $\frac{1}{4}$. The condition remained unchanged until the middle of Sep-

tember, when opacity of either lens developed. Towards the last days of December there was mature cataract in the left eye, and immature cataract in the right one.

Case IV.—T., clerk, 41 years old, presented himself, June 9, 1881, with a fresh detachment of the retina of the left eye, in its upper-inner quadrant, reaching as far as the optic disk, and protruding like a bag into the vitreous. Jaeger 13 was read with peripheral fixation. Final result, August 15, after seventeen injections of half a grain of pilocarpine: retina totally reattached in the inner quadrant, and only a flat detachment in the upper periphery; fixation is central, and Jaeger 1, the finest print of the test-tables, can be easily read. September 22 I first noticed a diffuse cloudiness of the lens, which almost totally veiled the background of the eye. Quantitative perception of light was good in all parts of the visual field. In the middle of October the cataract was mature.

Case V.—A., laborer, 33 years old, came under my care, February 17, 1880, for serous choroiditis of the left eye. Detachment of the upper part of the retina set in in the third week of the treatment. The internal use of the fluid extract of jaborandi, in daily doses of one tablespoonful, had the most favorable effect to check the progress of the morbid process, and to cause the retina to reattach entirely. This favorable condition remained stationary for four weeks, when opacity of the lens appeared, which in two months developed into mature cataract.

It would not be amiss to add to these five cases one observation of the same nature, which I have recently made in a horse of eight years of age. I treated the latter for irido-choroiditis and large opacities of the vitreous with an infusion of jaborandi leaves and subcutaneous injections of pilocarpine. The morbid process was very rapidly checked, and the vitreous cleared up entirely; but in the fourth week of the treatment I noticed the development of opacity of the lens, which had been perfectly clear all the time. The cataract progressed so rapidly that the background of the eye became entirely veiled within two weeks.

Now, the question arises whether we have to regard the development of cataract in these instances as a consequence of the treatment with jaborandi respectively pilocarpine or as mere coincidence only? Experience teaches us that the development of cataract is not of rare occurrence in eyes which are affected either with detachment of the retina or with some disease of the uveal tract, and we may possibly have to deal in these instances also only with such

a common incident. But, on the other hand, we cannot forbear suspecting that the treatment itself might stand in near relation to the morbid changes of the lens. It is not unlikely that the use of pilocarpine respectively jaborandi might either have accelerated the development of the cataract, which might have occurred spontaneously, however, somewhat later, or that it has been the immediate cause of the consecutive opacity of the lens. But whether we have to do in these instances with a casual occurrence only, or with the relation as between cause and effect, further investigations have to show. I am perfectly aware how dangerous it is to draw general conclusions from a small series of observations, and I am far from intending to do so by the communication of these few cases. The consideration only of the extensive use which is made of jaborandi and pilocarpine in general as well as in ophthalmic practice has prompted me to draw the attention of the profession to this question, which can be settled only by the collaboration and experiences of a greater number of observers.

1912 ARCH STREET, PHILADELPHIA.

SOME OF THE BAD EFFECTS RESULTING FROM "RETAINED PLACENTA."

*Read before the Philadelphia County Medical Society,
May 17, 1882.*

BY WILLIAM H. PARISH, M.D.

THE proper management of abnormal labor must be based largely on observation of those processes pertaining to labor physiologically effected. In accordance with this broad statement, the rule of practice is to remove the placenta and membranes within a short period—say within thirty minutes—after the expulsion of embryo or fetus. This rule is so well established, and it would seem, on limited consideration, so universally adopted in modern practice, that even a short paper on the subject would appear inappropriate before this Society. Yet I am convinced that under some circumstances the after-birth is not infrequently left for hours or days *in utero*, very generally to the detriment of the woman, and in some cases with the effect of causing her death.

In a paper read before this Society, in

1880, by one of its most experienced members, and in the discussion based upon that paper, cases were referred to in which the placenta was left in the uterus for hours without harm to the woman; and one instance was cited in which, near the full period of pregnancy, one-third of the placenta was left permanently in the uterus, and the patient could not remember afterwards that this fragment ever passed away. The writer stated that "in many cases he had left the placenta in for twelve or eighteen hours without bad results."

If, however, one ship breaks to pieces on a hidden rock, that rock is a dangerous one, even though other ships have but lately passed it in safety: the judicious mariner must steer clear of it.

I believe that as long as any portion of the placenta or of membrane remains in the uterus, so long is the patient in danger: the judicious removal of these products of conception removes the danger in part or entirely.

Hemorrhage severe and rapidly exhausting, or even quickly fatal, may depend upon the presence of portions of the after-birth. The bleeding may be a gradual one, however, not endangering life from syncope, yet sapping the patient's strength, and facilitating the inroads of blood-poisoning and of inflammation. But when there is hemorrhage, every practitioner sees at once the danger, and removes the after-birth. The occurrence of hemorrhage seems to stimulate him to at once empty the uterus; and he should remember that hemorrhage thus originating may not occur until after the lapse of days or of weeks.

When portions of the after-birth remain in the uterus for several hours, there is an accumulation about them of coagulated blood. This mass of animal matter dies, decomposes, and septic material is formed. The septic decomposition extends to coagula in the uterine tissues, and constitutional infection results through the vascular system. The lymphatics are not idle, and through their agency there is further systemic poisoning.

Phlebitis and lymphangitis of the uterus soon appear, and the inflammation, usually sluggish, though malignant in character, extends to the tissues adjoining. Metritis, cellulitis, pelvic and general peritonitis, become further complications. Septicæmia is always one of the dangers threaten-

ing when portions of after-birth are allowed to remain in the uterus. How soon will decomposition take place? and how soon after labor may this form of septicæmia begin? I am confident that putrid decomposition may begin in less than twelve hours after the escape of the child. I have known a child to die during labor of eighteen or twenty hours' duration, and decided putrefaction of it be progressing on its delivery. In one instance I removed, for a young practitioner, the placenta twenty-four hours after the delivery of a large and healthy child, and the placenta and clots about it were in a condition exceedingly offensive from decomposition. The conditions existing in the uterus and in the vagina are peculiarly favorable to rapid decomposition after the entrance of atmospheric air: warmth, moisture, and access of air combine to render the putrefaction often rapidly established. Absorption probably begins almost with the beginning of decomposition; this form of septicæmia may begin within twenty-four hours after labor. The systemic poisoning is established by degrees, and the symptoms are often so insidious as to escape observation until after they become urgent.

Some months ago I saw in consultation a woman on the tenth day after delivery at full period. The intelligent physician in attendance had been called to the aid of a midwife during the labor. The child had been delivered; the placenta was in the uterus. He made considerable effort to remove the placenta, but the woman resisted, was ungovernable, and a piece about the size of two fingers was left attached *in utero*. No symptom occurred to attract his attention until the evening of the ninth day, when the very rapid pulse, high temperature, abdominal distention and pain, vomiting, and pinched features, then marked the urgency of the case; but I cannot believe that these were the symptoms of beginning septicæmia. They were the evidences of the disease at its greatest intensity, at a stage when a fatal result can scarcely be averted. On the morning of the tenth day I saw the patient with him. The symptoms were such as I have mentioned, and of increasing severity. Death was imminent. There had been no hemorrhage; there was an offensive brownish discharge from the uterus. The portion of placenta was then removed by the doctor without difficulty; it was at that

time but loosely attached, softened, and putrid; the cervix was patulous, as is usually the case after decomposition has progressed. The patient died on the same day. There was no other possible cause of death but the retained portion of the placenta. I wish to emphasize a further fact,—viz., that ergot had been faithfully administered for days with the view of emptying the uterus of this fragment. This single fatal case is of more weight than scores of non-fatal cases in which the placenta or a portion of it may have been left in the womb. In this case the patient strongly resisted the doctor's efforts at removing the placenta on the day of the labor. The other women present were ignorant and interfering; the doctor's patience was sorely tried, and he left the fragment, trusting to the very unreliable influence of ergot to expel it. The absence of bleeding and the insidiousness of the symptoms led him to continue passive until too late. This concise history would apply to not a few other cases, doubtless, if they were brought to light.

It is, however, in miscarriages that the error of leaving the after-birth in the uterus for a few hours or days is most frequently committed. The placenta is then more apt to be adherent than in labor at full term; the uterine body contracts with less efficiency, and the sphincter fibres of the neck are more prompt in closing the cervical canal after the escape of the child. The accompanying dangers are of the same character as in incomplete labor at the tenth month, and a fatal result may in like manner follow. In 1880 I saw, also in consultation, a young married lady on the seventh day after a miscarriage of twins at the fifth month. After the escape of the twins the cervix closed so rapidly that the physician in attendance found himself unable to remove the placenta, and both were left entire. Ergot was administered for several days; on the seventh day the symptoms of peritonitis and of septic infection were alarming; on my first visit—i.e., on the eighth day—we removed the placenta in a state of partial decomposition. The patient continued to sink, and on the morning of the ninth day died. In addition to the condition mentioned, the urine had become highly albuminous. Had the placenta been removed at the time of delivery, she would have quite certainly recovered. But

in a large majority of instances death is not the result: the placenta is eventually expelled; the symptoms of blood-infection and of inflammation subside. The uterus, in such instances, does not, however, undergo sufficient involution; an obstinate form of womb disease is entailed, invalidism more or less decided exists for years, and sterility or successively occurring abortions are among the consequences.

In some instances the recovery is greatly prolonged, and confinement to bed for weeks or for months is necessitated; a condition of the system resembling typhoid fever obtains. I have no doubt that such a condition has been repeatedly diagnosed to be typhoid fever.

I have now under treatment in the Philadelphia Hospital, and still confined to bed, a woman who, some three months ago, had an abortion at the fifth month: she was delivered by a physician in the city at her home. Three weeks after the birth of the child a severe hemorrhage occurred, and the placenta was then removed. Pelvic inflammation and general peritonitis developed, with septic infection. In this condition she was sent to the hospital. She has run the gauntlet, presenting many of the symptoms of typhoid fever, and now, after three months, emaciated and almost exhausted, she has begun what must prove a most tardy convalescence, all due to the presence of the placenta *in utero* for three weeks after the delivery of the foetus.

It has not been my aim to present a systematic paper on the general subject of "retained placenta." I have merely desired to emphasize anew the fact that it is faulty—I will say malpractice—to leave any portion of the after-birth in the uterus with the hope that it may do no harm, or that ergot may secure its early expulsion. Injury may always be expected, and sometimes death, from such practice. Ergot, instead of expelling the now foreign substance, may, by contracting the neck, securely incarcerate it until putrefaction is established.

MALARIAL FEVERS TREATED WITH QUININE SUPPOSITORIES.—The use of quinine by the rectum, either in the form of suppository or enema, has been recommended by Prof. Alonzo Clark, in the same dose as by the stomach. This is especially applicable to intermittents in children.

VOL. XII.—22*

THERAPEUTIC DOSAGE IN CONNECTION WITH THE USE OF CERTAIN MEDICINES AS ALTERATIVES.

*Read before the Philadelphia County Medical Society,
May 24, 1882.*

BY E. T. BRUEN, M.D.,

Demonstrator of Clinical Medicine in the University of Pennsylvania; Physician to the Philadelphia Hospital, etc.

I DESIRE to invite your attention this evening to a few observations upon the effects of certain drugs. These observations especially apply to drugs which are to be used as alteratives; and in so doing I propose to show that these effects can be best secured, first, by careful attention to the method of administration, and, secondly, that attention to the method of administration will permit one to modify the size of the dose of many substances, and yet secure a positive physiological effect.

INFLUENCE OF ALBUMEN.

Albumen and the intestinal fluids may aid or hinder the therapeutic effects to be secured from the administration of particular drugs. With salts of iron, arsenic, zinc, copper, silver, or manganese, the meal-hour is habitually selected for their administration, because the albuminoid fluids render the absorption of these substances more facile. When the substance to be taken is irritant, the same rule will apply. For instance, if a larger amount of iron is given than can be digested, the blackened stools show the presence of the iron unabsorbed. It has been demonstrated that if an albuminous solution be added to a solution of some of the salts of various metals, *i.e.*, copper or silver, a precipitate is formed; if more is added, the precipitate redissolves, and it may again be reformed if still more is added. In the case of nitrate of silver, the separated metal acts upon the tissues with which it comes in contact as a gentle stimulant, without producing the painful effects of a strong chemical action.

Calomel requires the action of the intestinal fluids. It is not assimilated as the iron salts, but is acted upon by these fluids, and enters the circulation as calomel or as an oxide of mercury, but not as corrosive sublimate; otherwise the speedy mercurial salivation of bichloride of mercury would be produced. Again, the fatty matters of the intestinal canal form a

solvent for such a substance as phosphorus. On the other hand, albumen may hinder the action of some substances. I quote a few illustrations from Gubler's Therapeutics:

Cantharides, when absorbed from a blistered surface, is capable of causing strangury. Why does not lymphangitis or phlebitis occur in parts around the blistered surface, although such grave symptoms of kidney-trouble have been induced by the application? The explanation is that albumen, if present, opposes the accomplishment of the usual effect of cantharides; but when eliminated in the kidneys, in a secretion which normally is exempt from albumen, it becomes free, and produces on the kidneys and on the rest of the urinary apparatus the effects which cantharides ordinarily determines on the skin, on the mucous membranes, and, in fact, on all the surfaces with which it comes in direct contact. Again, large doses of chlorate of potassium may be given to a dog, together with the iodide of potassium. In this experiment there is probably formed an iodate of potassium, and toxic accidents often proving mortal for quite large animals may be induced. When the two substances are introduced separately into the circulation, the one, for instance, by the stomach, the other by the rectum, they are separately absorbed, and do not come into contact before mingling with the serum of the blood, and so do not cause any fatal issue.

Claude Bernard has introduced lactate of iron into the circulation, and painted the internal aspect of the stomach with yellow ferro-cyanide of potassium, and the blue tinge obtained was confined to the superficial layers of the mucous membrane, thus clearly showing that the acid necessary in the presence of albumen for the production of this reaction was present only in these superficial layers: in other terms, the acid has simply modified the albuminoid solution, depriving it of its functions. Moreover, every one is familiar with the fact that the action of many organic substances, such as morphia or atropia, is materially modified if they are swallowed when there is a considerable proportion of food in the stomach. Corollary: unless special action of the intestinal fluids upon substances used as medicines is desired, it is better to give such substances in the intervals of digestion. When medicines are

introduced into the stomach during a time when the digestive processes are in active operation, not only may a negative effect of the albuminous fluids obtain, but the substances, when absorbed, are rapidly carried off by the circulation, so that a prolonged and positive impression of any drug upon the system is not secured. An illustration of what I mean may be found in the action of arsenic as a caustic. We are aware that it exercises a peculiar selection in attacking tissues destructively. It is but a question of the proportion or quantity applied. When it comes in contact with a tissue well supplied with blood-vessels, it is partly carried off in the circulation, and there is never a sufficiently large quantity present to produce death of the part. In tissues not so well irrigated it is, on the contrary, apt to accumulate. It spares then the living tissues, but acts on others where there is a great accumulation of new cells, as in encephaloid cancer. We may then assume that, unless special action of the gastric fluids upon substances used as medicines is desired, it is better to give such substances in the intervals of digestion; for not only is the effect of the drug more potential, but the amount required is manifestly smaller.

DEFINITION OF AN ALTERNATIVE.

If now one should ask, "What is an alternative?" I quote from Gubler: "Alternatives are substances which, in place of merely traversing the organism, form combinations with the plasma, penetrate into the substance of the elements, live the same existence as the elements themselves, and as long as they do, and, consequently, during a certain time form an integral part of the organism." As an illustration of the principle already demonstrated, and as typical of the proper method of giving all substances from which an action as alternative is expected, let us consider the administration of iodide of potassium. Accordingly, the iodide is most efficient when the functional activity of the digestive processes is at a minimum. It is also more effective when given freely diluted, because of the reasons already cited, and in order that the quantity entering the circulation may never be sufficient to produce an irritant effect, and in order that it may pass as slowly as possible into the system, and thus become gradually an integral part of the plasma of the tissues,

i.e., become an alterative. In my experience, one can reduce markedly the dose and gain more than double or triple the effect of the drug than when it is used in any other manner. My own plan is to administer the iodide in wafer (two grains per dose, once or twice daily), and follow with a pint of Vichy or other water. If no effect be produced, I increase grain by grain the iodide up to five grains, since there can be no other guide to the amount of a drug to be used therapeutically except the standard of the effect produced. But I claim that the two-grain dose will be found to accomplish, in a large majority of cases, all that fifteen-grain doses will effect given on any other plan, and also that five grains is usually a maximum alterative dose. Syphilis is an exception to the rule I have defined for myself. In this process large amounts of the iodide seem to be serviceable when small amounts totally fail. Aneurism is another exception calling for an increased quantity. When iodide of potassium is given to affect the pulmonary mucous membrane, five- to ten-grain doses are perhaps more efficient, because in this case the drug is given to increase secretion or act as an expectorant, but not as an alterative. If it is given as an alterative to the pulmonary mucous membrane in chronic bronchitis, the smaller dose is most efficient. The small dose already mentioned is also efficacious in all forms of rheumatism for which the potassium salt is advised, and will produce more promptly a positive effect. It is a markedly efficient substance in interstitial hypertrophic hepatitis, with or without jaundice, from associated catarrh of the hepatic biliary canals.

It is really wonderful how positive the alterative action is in these cases. Let me quote one example from my case-book,—the history of a lady aged 43, suffering under an attack of interstitial hepatitis, with jaundice, of two and a half years' duration, and the usual intestinal symptoms, *i.e.*, flatulence and clay-colored dejecta. The hepatic measurements were nine inches in nipple-line, and corresponding lateral enlargement. During all this time calomel, the acids, and iodide of potassium had been used. But under the two-grain doses, given as described, the liver was reduced in fourteen weeks to very nearly normal limits. This case is but an exam-

ple of a series which might be recorded did time permit.

To effect the absorption of chronic pleural effusions, where medicinal treatment is availing, the smaller dose is less efficient than the larger, because at all events an alterative action is not required.

CALOMEL—SUITABLE DOSE AS AN ALTERATIVE.

The next drug to which I would solicit attention is calomel. None can be more ready than myself to subscribe to the beneficial effects of the ordinary doses in the majority of cases in which it is prescribed. But there are numerous instances of mal-assimilation, in which the secretions of the digestive tract are imperfectly elaborated, or in which the action of the liver upon the albuminoids received from the digestive tract is imperfect. A true alterative effect upon the hepatic gland, especially in its hæmatogenetic function, and a gradual effect upon the glands of the system of the small intestine, are desired. It is exceptionally useful in cases of anæmia to prepare the pathway for the use of the more positive hæmatogenetic agents, such as iron. Iron, preceded by calomel, given sometimes until a slight constitutional action is evoked, will accomplish much which cannot be gained by its use in any other method. Fothergill's observation that iron is inefficient if given when there is a coated tongue is *apropos*. Cases of anæmia with neurasthenia, also the so-called nervous dyspepsia, attended with the secretion of an abundant urine of low specific gravity, with vaso-motor disorder, headache, pulsations of the temples, etc., are much benefited by the prior use of calomel. In these cases iron tonics (phosphorus, arsenic) are badly borne unless preceded by some such alterative course. In the opposite class of cases, where a plethoric habit prevails in young women with violent headaches, of full habit, the symptoms are often more promptly relieved by this drug than by any other treatment. I have spoken thus in detail, because when I state the dose employed, viz., the one-hundredth of a grain, there may be some demur. Sometimes I have used the fiftieth of a grain. A gentleman who took these doses said to me once, "Doctor, I don't dislike the effect of your medicine; but tell me if I am taking calomel." I replied in the affirmative, but alluded deprecatingly to the size of the dose, and asked how he

knew he was taking calomel. He replied, "It affects my bowels as calomel usually does,—namely, changing the color of the actions." In cases of clay-colored actions in jaundice, the color has been rendered normal, and constipation obviated, by these doses. In a recent absence from the city, the writer left a case of interstitial hepatitis under the care of a friend. The patient was taking the one-hundredth of a grain of calomel. The gentleman in whose care the patient was left was sceptical as to the potential character of the apparently insignificant dose. On my return I asked, "What is Mrs. — taking?" He replied, "The same treatment as when you left, except that I have given the fiftieth of a grain of calomel, as she was slightly troubled with constipation and clay-colored actions, which state of things was promptly remedied."

In the writer's experience, save in a small proportion of cases of simple "biliousness" (temporary congestion), the treatment of hepatic conditions by calomel or the iodide of potassium, or by both together, is far superior to the acid treatment. The usefulness of this plan is attested by the frequency with which courses of treatment at mineral springs are prescribed in this class of cases. Nature is prepared to administer remedies in dilute solution when the stomach and digestive tract are inactive and also when she wishes an alterative effect.

With the "mighty chloride," one must remember that it is efficient through the operation of the secretions of the small intestine, alkaline juices or mucus. It is well known that teaspoonful doses have been given in the Western States with no more positive effect than a grain given as a dose in this community. Why then are these small doses so potential? It is because the introduction of each molecule of powder into the system is rendered more facile. It is also obviously important to remember that these doses should be given between meals.

INFLUENCE OF DIET.

In cases of malassimilation, it need scarcely be added that the question of diet must receive scrupulous attention,—not so much the exclusion of albuminous matter, as the administration of the same in an assimilative condition. If a mixed diet is used, attention to detail must be ob-

served in prescribing it. Remember, it is said that "a pound of flesh is enormously superior to a pound of cabbage; yet to a rabbit the cabbage is the superior food, whilst to the dog it is no food at all."

STRYCHNIA.

When strychnia is given as an alterative stimulant to the nervous system, the dose may be advantageously made very small. In Schieffelin & Co.'s list one can find granules of strychnia of the $\frac{1}{100}$ and $\frac{1}{200}$ of a grain each. This provides us with a preparation which is often the proper dose. Individuals have stated to me that they could not take strychnia: it had been tried as a remedy by this or that prominent physician with signal failure. I have asked, "Will you try my strychnia?" and forthwith have ordered the granules above named, not only with toleration, but with marked benefit. For example, tympanites has been modified, neurasthenia benefited, nervous headache relieved, respiration influenced, and the like. It is a fundamental principle, however, that no positive dose can be laid down as universally suitable. One can elicit an effect from a small as well as from a large one. The more the alterative action is demanded, the best rule will be to commence with a very small dose, for instance, the $\frac{1}{200}$ of a grain, and increase the dose cautiously until the symptom for which the drug is administered is relieved, or a mild physiological action is elicited. On the other hand, when the drug is used as a respiratory stimulant for an urgent symptom, such as dyspnoea, there is a decided call for a promptly efficient—i.e., large physiological—dose: the one-twenty-fourth of a grain may be used.

BELLADONNA.

Again, in the use of belladonna, when an alterative effect can be waited for, it has been my fortune to find that quite small doses of the tincture, well diluted, will accomplish a physiological effect. In a case of recurrent epileptiform convulsions caused by morbid growths within the cranium, three drops of tincture of belladonna in half a glass of water, given daily, not only controlled the symptom, but within two weeks produced characteristic physiological action. On the other hand, there is no doubt that in cases of heart disease, where prompt physiological action is desired, the ordinary doses are useful.

MANIPULATION.

In conclusion, let me call attention to the value of frictions and rubbing of the skin with some animal or vegetable oil as an essential part of an alterative treatment, especially in hepatic and renal diseases. We are all aware of the increased functional activity of the skin induced by this measure. In hepatic disease, when jaundice is a symptom, much of the coloring-matter can be withdrawn from the skin by this means, and the itching effectively relieved. Partially-reduced albuminoids are cast off, and the blood more thoroughly depurated. Besides this, the peripheral circulation is quickened and the systemic circulation is thereby improved. By abdominal rubbing and massage over the liver, the circulation through that organ is improved, and in the series of cases of hypertrophic cirrhosis and jaundice previously alluded to, I believe the rubbing was an essential factor in the treatment. The jaundice disappeared in those portions of the body upon which most friction had been applied. In chronic renal diseases, the vaso-motor system is stimulated and the heart hypertrophies. In these cases, circulation being nearly perfectly carried on, digestion and elimination are nearly physiological. With failing heart and diminished vaso-motor tonus, the digestion becomes impaired from an enfeebled circulation. Elimination by skin and kidneys is reduced, and it is in these cases that rubbing is so powerful for good. We all believe in the paramount usefulness of rubbing in diabetes when the vaso-motor system is enfeebled and the skin dry and harsh. Believe me, the same means is none the less useful in those forms of Bright's diseases where dropsy and impaired blood-crisis demonstrate the need of a perfect circulation and elimination, which shall prevent as far as possible further deterioration. For with the maximum perfection in circulation comes the maximum degree of assimilation. In view of what has been submitted to you, let me say that hospital and private practice has taught the writer that the true object of the physician should be to "cure the patient," not to "treat the disease." Disease is multiform in its method of attack; the plan of defence includes sorties which can be based on no previously-arranged home-office plan of campaign. I would deprecate the teaching of the negative

school of therapeutists. "What can I gain on the denying side? Ice makes no conflagration." If we advance in knowledge only by error, let us ever blunderingly advance.

THE NERVE-ELEMENT IN WHOOPING-COUGH.—Of late years the profession has bestowed very little, if any, serious scientific attention on some of the commonest of common maladies. Whooping-cough is conspicuously among the neglected ills to which, notwithstanding the forgetfulness of the multitude of earnest clinical investigators, flesh is still heir. Many years ago the nerve-element in this troublesome and too often evil-working, if not in itself dangerous, affection, engaged much consideration, and treatment was specially directed to its relief. It would be well if the investigation of this feature of the etiology of the affection could be resumed. The fact that pertussis belongs to the class of maladies which are communicable and "catching" does not take it out of the range of probability that the specific action of a morbid poison on the nerve-centres may be the efficient cause of the disease. Although the fact that the affection occurs rarely more than once in the life of any individual may seem to point more directly to the fertilizing of latent germs in the organism than to any special excitation of the nerve-centres, we do not, as yet, know enough of the *modus operandi* of morbid influences—"germs," or poisons, as we call them—in the blood and tissues to define the part which the nerve-centres play in the production of morbid phenomena. In any case, such relief is frequently obtained, even in the earliest stages of whooping-cough, from mild periodic counter-irritation over the whole length of the spinal column by a mustard-poultice, which merely reddens the skin without vesication, that it would be well worth while to study this method closely from the therapeutic as well as the clinical stand-point. It certainly does good; but how? In cases where the mustard-poultice, applied for six or eight minutes—not longer—over the whole length of the spine immediately before putting the child to bed, every night, for a week, or, in seriously spasmodic cases, a fortnight, does not procure a permanent amelioration of the cough, the effect of this remedy is enhanced by sponging the spine with iced water quickly each successive morning. In cases where the paroxysms of cough seem to be repeated and to continue from sheer exhaustion of the nerve-centres, coffee, administered as a drink, will often stimulate the energy of the centres so as to put an end to the malady. These are practical points which require theoretical explanation.—*The Lancet*, January 28, 1882.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JULY 29, 1882.

EDITORIAL.

THE SEXUAL INSTINCT.

IT is one of the mysteries of human nature that its highest and purest development seems inseparably bound with its lowest and most animal attributes, that that which ministers to its highest joy becomes often the basis of its most unendurable torment, that the source of its tenderest emotions may be the origin of its most damnable brutality. Without the family the nation cannot exist. Without the domestic relation human nature never could have risen to its present fulfilment; and the individual only can reach this on the highest development. The statement may seem almost sacrilegious to one who knows the peace and comfort of a quiet, happy home and has never attempted to analyze the forces which brought that home into being, but nevertheless it is true that the family rests upon sexual instinct, and that if this had not been created so dominant in the character of man, the family would have no existence.

Softness and refinement grow out of that which seems at first purely animal. Without the strong instinct which binds a Hercules captive to the smile of Omphale, life would become as barren of the tenderesses which blossom over it as it now grows foul when the sexual passion is made an instrument of degradation and not a means of elevation.

It is the sheerest folly to shut our eyes to the fact that the sexual instinct is, after all, the master-passion of the race; and the wise physician or legislator should study it, not with the hope of dethroning it, but with that of using it for the best purposes.

There has been some discussion lately as

to the existence or non-existence of this feeling in the human female, and it has been broadly asserted that the American woman does not have it. Such an assertion is, however, preposterous. The woman who does not have such instinct and desire lacks just as much in her nature as does the man when in like manner anomalous. Woman's nature is in this, as in many other points, receptive, not aggressive; but the woman who is thus frigid is unfit for marriage, because she is an imperfect woman. Very properly, the sexual instinct is in the woman before marriage often completely latent, and there are numerous married women whose passions have been only awakened after marriage, and have then seemingly been acquired. There is in some quarters the idea that the purest type of womanhood is passionless; but it is often most important that the physician, with all deference to those possessed of such idea, should clearly understand its incorrectness, and the necessity, under many circumstances, for the woman to increase systematically that which is abnormally undeveloped in her.

In the average man the struggle is to repress, not to stimulate, and above all is it often to be taught that self-control is almost as necessary for the married as for the unmarried. Many a man is physically ruined, many a woman is rendered unhappy, hysterical, and many a household becomes a scene of discontent, through failure in this regard.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the Hall of the Society on April 12, 1882.

Dr. Heyl read a report of a case of

TRAUMATIC DIPHTHERIA OF THE ORBIT.*

Dr. W. S. Little inquired whether a chill had been observed as ushering in the case, and whether the conjunctiva of the other eye was

* See page 737.

affected. He had usually seen in these cases more constitutional disturbance than had been indicated by Dr. Heyl's description, and thought if the whole conjunctiva were not affected the trouble could not properly be considered diphtheritic.

Dr. Heyl said that the other eye was not affected, and, so far as he knew, there was no chill. Conjunctival diphtheria is rare in the United States. He had seen about two dozen cases. In a number of instances only one eye had been affected. He had never taken the temperature in cases of conjunctival diphtheria, but he did not think that in a diphtheritis of this extent we would expect a higher temperature than had been observed. In tracheal diphtheria the fever did not rise more than one or two degrees higher than noted in this case.

A NEW ARRANGEMENT OF THE BROW-MIRROR.

Dr. Risley presented a new arrangement of the brow-mirror for ear and throat examinations. The mirror is attached,



as usual, to a forehead-pad, which is held in position by a spring passing over the vertex to a similar pad on the occiput and making pressure like an ordinary truss. The mirror is thus held more firmly than by the band, while the pressure is less annoying, and the placing and removing of the instrument are accomplished with less trouble and disarrangement of the hair. The spring adjustment was devised by Dr. J. P. Worrell, of Terre Haute, Indiana, and Dr. Risley had shown it to Mr. Ivan Fox, optician, who has replaced

the somewhat cumbersome semicircular spring by one so jointed that it will fold about the mirror. This adds but little to the bulk of the mirror, while it affords it an excellent protection against breakage in transportation, as will be seen in the accompanying cut.

SCLEROTOMY FOR GLAUCOMA.

Dr. Landesberg said he was the first in this country to call attention to the operation of sclerotomy, and had reported, in the *Philadelphia Medical Times* of October 9, 1880, thirty-five cases of its use. It was an operation which was to be done when iridectomy had been used, and the renewed glaucoma required a second operation; also in absolute glaucoma, when the blind eye requires operation for the relief of pain. In cases of primary glaucoma, iridectomy will be performed, because it has the support of the profession, and failure will be excused; but if sclerotomy should be performed, and bad results then occur, the operator might be blamed for using a new method. Dr. Landesberg had performed sclerotomy in about fifty cases. In the latest case the patient could not count fingers at two feet, and the operation was a perfect success. As to the use of eserine, he had, in an article in the *Philadelphia Medical Times*, August 16, 1879, warned the profession against the extravagant hopes with which the new remedy was hailed by the profession. He had at first good results, but afterwards failure. The temporary relief was misleading; patients would use it in future attacks, and let the disease-action go on increasing until vision has become for the most part irrevocably lost. It should never be given to patients, but, if used at all, should be instilled by the physician in his office. He believed it was being abandoned by eye-surgeons as a substitute for any operative procedure.

Dr. Risley said he agreed with Dr. Landesberg in the opinion that patients with glaucoma should not be allowed to use eserine at will, since it was not safe to rely upon it as a safe means of treating this serious disease. The fact that patients may occasionally learn to use it, without advice, in successive attacks of glaucoma, does not, however, justify the condemnation of its judicious employment.

No ophthalmic surgeon, so far as he knew, regarded eserine as of more than temporary value in the treatment of glaucoma, and it should therefore be employed tentatively until absolute necessity for operative interference is clearly manifest, or for the relief of pain until a convenient time and place for operation could be secured.

THE TREATMENT OF LACHRYMAL OBSTRUCTION BY SOLUBLE STYLES.

Dr. R. J. Levis called attention to the uses and advantages of soluble styles in the treatment of lachrymal obstruction. He said that all who are familiar with the class of cases would admit that the treatment was unsettled

as to method and unsatisfactory as to result. The pain of operation is usually greater than in most ophthalmic work. Years ago he had thought that he might use a soluble style, and thus avoid repeated insertions of the lachrymal probe. 'Such a style might be dissolved in time by means of the lachrymal fluid, or even by a physiological absorption. At first he had used styles cut from stout sheets of glue, but these dissolved too rapidly, and required renewal. Something was needed which would dissolve more slowly. He had tried dried ox-tendon, and afterwards catgut. These experiments had been made seventeen or eighteen years ago, but subsequently he had abandoned all these materials, and substituted a form of stout raw-hide, using that form prepared by what was known in the trade as the lime-process. It is semi-translucent. This material had been used by him for a long time, and, having been mentioned in reports of his clinic, had received some attention abroad, but apparently not in this country.

Dr. Levis described by diagrams on the blackboard the anatomical relations of the lachrymal duct, and pointed out that the most usual point of obstruction is where the canal enters the bone. Where the opening of the lower canaliculus is patulous, it is his custom to insert a slender knife, and slit up the duct to the bone, and then dilate by a probe; but a piece of the posterior wall of the canaliculus should be removed to keep it from closing. The dilating probe serves as a guide for a grooved director of special construction; the probe is then withdrawn, and the raw-hide style inserted along the groove of the director, which is then withdrawn. The style soon swells decidedly, and becomes soft and flexible. Specimens of the style were shown which had been for several hours in a weak salt solution, and had swollen to about double their original size,—say from No. 6, French catheter size, to No. 3. The advantages of the use of these styles are greater ease of operating and better results. Even a beginner could perform the work with precision if the directions were followed. The operation has rarely to be repeated.

It has not yet been determined how long the styles remain in position in the duct before absorption removes them, but the time must vary with the condition of the parts. If there is caries of the long duct, with suppuration, physiological absorption will be impeded. In the more common condition of catarrhal inflammation, with thickening, the style is probably absorbed within a few weeks. There must also be going on a mechanical disintegration or solution of the style.

Dr. Little said that the difficulty he had found in the use of these styles, or of any style, was that they occluded the duct too completely. He regarded the lachrymal apparatus as requiring as careful handling as

the urethra, and thought that we must avoid using much force or carrying the dilatation too high. The nasal passages, also the larynx and pharynx, should always be examined. He had seen fistula cured by two or three applications of Bowman's probes, rarely going higher than No. 5.

Dr. Schapring said that he had treated but one case by this method. In that he had not been able to introduce the soluble style with the guide, but had succeeded in getting in the style without the guide. The patient had previously had a Bowman's probe introduced a number of times. After the insertion of the style the patient walked a considerable distance in the country, exposed to a high wind, and contracted erysipelas. After recovery from this the flow of tears was less than before operation, but it had not ceased entirely. He ascribed the erysipelas to the exposure.

Dr. H. Augustus Wilson said he had been much impressed with Dr. Levis's method, not only because of the permanent success by which it was followed, but also on account of the speedy method of establishing a cure. He detailed two cases, in which probes No. 2 and 3 had been used for several months, but without relief. He determined to make a comparison between the dilatation by the larger probes of the Theobald series and the soluble styles. The result was that the soluble styles so far remedied the obstruction that in less than two hours' time the tears ceased to flow over the lids. In ten days a large probe (No. 13 in one case, and in another a No. 15) was passed without difficulty, proving that the style was either so soft as not to offer any impediment or else had entirely disappeared. He thought that in cases of lachrymal obstruction the surgeon is too often satisfied when he succeeds in passing a No. 1 or No. 2 probe. It would be as well to say that a stricture of the urethra is cured by simply passing a filiform bougie a couple of times a week.

Dr. Risley said that although the majority of cases of lachrymal obstruction recover under careful treatment, there nevertheless remain a large number that are only partially relieved or not at all benefited by the ordinary probing of the duct. Any treatment which would relieve or cure these cases would certainly be a great boon. He had had no experience in the method proposed by Dr. Levis, but thought there were certain theoretical objections to be urged against it, especially when attempted by less skilful persons than Dr. Levis. The theory upon which it is based is radically different from that underlying the method pursued by some other surgeons. It is to be borne in mind that the lachrymal duct, although a drainage-tube, is not an open waste-pipe through which the tears run down to the nose. When closed by a thickening of its mucous lining, particularly in the bony duct, he did not think the best mode of treatment is by a forcible dilatation

or rupture of the closure, as in stricture of the urethra. The anatomical relations are different. The inflamed mucous membrane lining the nasal duct is usually friable and readily torn, and the probe, under any but the most gentle handling, is readily thrust through the membrane, and made to pass downward between the mucous membrane and the bony walls, an accident which he had learned to deprecate, since it was quite sure to make the obstruction worse, and the case subsequently more difficult to treat.

The soluble style shown by Dr. Levis is about the size of No. 6 or No. 8 of the Bowman's series of probes, so that the conical grooved director upon which this is inserted is large enough to rupture the mucous membrane at the side of the stricture. It is to be remembered that in the dried skull the nasal duct is a canal with sinuous walls, the projecting points of bone lessening very much the general calibre of the duct. A few trials had shown him that in some dried preparations the bony duct would not permit the passage of even the medium-sized probes recently suggested by Dr. Theobald. When covered by the soft tissues, the calibre is, of course, still less. It seemed to him that harm is liable to result from the endeavor, in any but the most experienced hands, to force a dilator through a duct with such anatomical peculiarities.

The theory upon which his own treatment of lachrymal obstruction had been based was pressure rather than forcible dilatation. A probe is passed with great care, sufficiently large to require only gentle pressure, the requirement being that it should fit the stricture tightly. It is allowed to remain for ten or twenty minutes, at the end of which time there will usually be felt by the patient a sense of constriction and throbbing at the site of the stricture. The probe will then be found firmly gripped by the tissues, so that the force required to remove it will often be equal to or greater than that used to insert it. When treated in this manner, the insertion is not a very painful proceeding, so that patients submit without hesitation to its repetition once or twice weekly. At each insertion the tissues are subjected to firm and protracted pressure between the walls of the duct and the probe, and the thickening of the tissues undergoes absorption, as in the case of the indurated borders of a leg-ulcer under the process of strapping.

Dr. Laurence Turnbull stated that he could confirm Dr. Risley's observations and experiments upon the dried skull, as the doctor was kind enough to show him at the time that probes larger than Bowman's No. 6 were in a great majority of cases too large to enter or pass through the narrow portion of the lachrymal canal. He would also caution the younger members who were devoting themselves to

ophthalmology not to be too sanguine of performing a cure, as he himself, after a long experience, had cases of improvement, but rarely a perfect restoration or absolute cure. He would desire to know if any of them had a perfect cure. Was it not so that, after long efforts and the No. 5 and 6 would pass readily, on exposure to cold winds the tears would still flow over the cheek? As to probes of the sizes of 12 or 13, he never would use them or attempt to use them, as they are apt to be followed by erysipelas, abscess, or periostitis. The greatest improvement in the treatment of all forms of lachrymal obstruction is the relief of the tension of the sac or canaliculi by slitting up either the upper or the lower canaliculus with a "Weber's knife;" and after the inflammation has subsided, if the duct has not become patulous, Bowman's probes should be passed through the duct down to the nose. These probes, which usually come from the shop straight, should be bent to a curve before being introduced: if a stricture of the duct should be detected, it should be freely divided, and probing should be carried on with gentleness and care. He further remarked that Dr. Levis's method of introducing a director and then a style in the beginning, as a No. 6, seems to us a return to the old method, in which all kinds of styles were employed, of lead, iron, silver, etc., in which so many of the cases were not only left no better, but, in many instances, with a permanent disease of bone and a fistulous opening as a deformity.

In closing the discussion, Dr. Levis said, in answer to a question, that the function of the duct is to carry off the majority of the tears, and therefore if such function is restored the cure is complete. The insertion of the style does not entirely occlude the duct: the tears will still flow down by capillary attraction.

A CLINICAL meeting of the Society was held at the Hall of the Society on April 19, 1882.

SPONTANEOUS FISSURE AND EXPULSION OF PORTIONS OF A LARGE VESICAL CALCULUS.

Dr. C. H. Thomas detailed the following case. The patient was a man aged about 35, who, during the year 1876, sent for him in consequence of difficulty in passing urine, which was found to be due to the impaction of pieces of calculus in the urethra. Dr. Thomas succeeded, by means of various instruments taken from his pocket-case and therefore not perfectly adapted to the case, in getting out the pieces. He was twice called to see the patient laboring under the same difficulty, and on the last occasion it took from half an hour to an hour to get all the pieces removed. He advised that the operation of crushing and rapid evacuation by

Bigelow's method should be performed, and after a long delay the patient consented, but had as yet declined to fix a date. As cystitis exists, and the condition is doing serious injury to the general health, it seems probable that the patient might delay the operation until a successful result would be doubtful. A careful examination of the pieces which had been extracted, and which have been preserved, showed that they were probably fragments of one large ovoidal calculus or of two calculi, one about an inch in diameter, the other about two inches. Some of the pieces showed two layers: one brick-red, the other rather chalky,—this latter being the exterior. A chemical analysis had been made by Dr. Leffmann.

Dr. Leffmann said that the pieces were mixtures of urates, phosphates, and a small amount of oxalates. Usually such mixtures contained the urates as the nucleus and the phosphates as encrusting materials, and such was probably the case here; but he had only a few small fragments, and could not verify the fact. The larger pieces shown by Dr. Thomas this evening bore out this view decidedly. The spontaneous fracture was probably due to the irregular composition. It would seem likely that a calculus composed of several distinct substances would have less cohesive power than one of uniform composition. Cases of spontaneous fissure were not unknown: one had been described and figured by Beale, of London.

Dr. Packard said that the case seemed to him more suited for lithotomy than lithotomy, to which latter operation the cystitis was a contra-indication. On the other hand, cystotomy is a recognized method of treating cystitis, and would be allowable here, and, taking into consideration the obvious irregularity of the stone, its tendency to break up, and the irritation of the bladder, the operation of crushing, even under the improved method, would scarcely seem advisable. If lithotomy should be performed, he would not hesitate to keep the wound open for some time, if necessary to relieve the inflamed bladder.

APPARATUS FOR METALLO-THERAPY.

Dr. Blackwood exhibited a set of Burq's metallo-therapy disks, obtained through a Parisian electrician, and made some remarks on the subject, stating it to be his belief that all effects from strapping on these so-called "armatures" were merely imaginary. The patients supposed to be benefited by such impressions are hysterical cases, and neither their statements nor their apparent symptoms can be strictly relied on. These small plates exert no electrical effect under any circumstances, nor can they modify the electrical condition of the body, and they should be classed by honest neurologists with analogous humbugs, such as liver-pads, electric medals, and health-renewing suspensories.

DISCUSSION ON RESORCIN AND CHINOLINE.

Dr. Burnett made some remarks upon the treatment of ear diseases by insufflation of powders containing chinoline and resorcin, and presented several specimens for examination.

Dr. O'Hara said that chinoline tartrate had been recommended on account of taste as a suitable substitute for quinine, especially with children, but a sample which he had tasted was certainly much more disagreeable than quinine, and he would not use it.

Dr. Harlan said he had used resorcin for insufflation, but, as it absorbs water and becomes somewhat heavy, he preferred to use it mixed with about twice its weight of boracic acid. It was then very satisfactory.

Dr. Schapinger learned some time ago that the price of chinoline tartrate is about five dollars per pound.

Dr. Woodbury said that the first specimens of the chinoline salts which were imported were contaminated with the free alkaloid, which is an oily liquid, very offensive to the taste and smell. The later specimens are better made, but even the pure salts are not pleasant. Peppermint had been advised as a means of concealing the taste. In reference to the use of various powders in insufflation, he thought that an admixture of fine talc, such as is used in dusting the skin of infants, would be found useful to dilute the powders where it is not desirable to use them in full strength: he thought it superior to substances of a starchy nature for this purpose, for obvious reasons.

Dr. Burnett said that undoubtedly boracic acid would be an advisable addition to resorcin, but in determining the nature of a remedy he preferred to use it pure, so as to get a trustworthy result. Resorcin owed its virtues to its bactericide powers. Its price was \$1.75 per ounce. Some few persons cannot bear the odor of chinoline salicylate, but the vast majority do not mind it: in no case is it so disagreeable as iodoform. Talc had often been used as a drying powder in ear-troubles, especially in English practice, but he did not think it safe to put an insoluble substance into the ear, and therefore would not use it.

DISCUSSION ON RENAL ASTHMA.

Dr. Packard reported a case of death from renal asthma (see page 740), in which ether had been administered. He inquired if the ether might have hastened death.

Dr. Harlan said that in the last number of the Transactions of the American Ophthalmological Society Dr. Wm. F. Norris had reported three cases of death from inhalation of ether in patients affected with kidney disease. The fatal result was not immediate, but the patients never fully rallied from the anæsthetic. He knew of no other statistics bearing upon the subject. Ether was almost

universally used in ophthalmological practice in this country.

Dr. Laurence Turnbull stated that in the Transactions of the American Medical Association for 1880 he had published that affections of the kidney made the use of anæsthetics highly dangerous. He had noted in this communication about eight cases of fatal results from this cause, and he wished to call public attention to the danger, as the subject had not received the consideration which its importance demands. Ether was especially noted as a cause of death in these cases, and the administration of ethyl bromide in this city, also in New York, had been attended by fatal result in two patients affected with kidney disease. Dr. Emmett, of New York, had called the attention of the profession to this subject in 1863, and subsequently recorded a number of cases, and had furnished the details of these to Dr. Turnbull, which will be published in a paper he is preparing.

Dr. Schapinger, referring to the second authority quoted by Dr. Packard, inquired if Dr. Packard would not, in a similar case in the future, use chloroform in preference to ether.

Dr. Parish said that the danger of ether in kidney disease was of great importance, on account of the frequent use of it in those who have kidney-trouble. It was largely used, for instance, in puerperal convulsions, which are often dependent upon or associated with kidney disease. He had seen several deaths in such cases, in which ether had been used for some hours, but he had also seen recoveries after using ether as well as recoveries without its use. What is needed is more extended statistical information. He would like to know whether any case had been recorded in which Bright's disease caused death during the use of chloroform.

Dr. C. H. Thomas referred to the case of a lady whom he had been suddenly called to see while she was suffering from a puerperal convulsion. He had seen her but once previously. She presented evidences of albuminuria, such as dropsy of hands and feet and eyelids. At the time when he was sent for she was in the seventh month of pregnancy. He used ether at once, under the opinion that it was harmless, while chloroform was dangerous. This opinion he had since come to believe erroneous, but it was very firmly fixed in his mind at that time. He tested a sample of the patient's urine, and found it highly albuminous. About half a minute after beginning to administer the ether, the patient's face became blue, her respiration became shallow, and she died within about three hours, in spite of all efforts at resuscitation. He had always blamed the ether for this death, as the convulsions had been too slight and too few in number to cause it.

Dr. A. H. Smith said he was well satisfied that ether is contra-indicated in cases of

kidney disease. In the earlier part of his use of anæsthetics in obstetric practice he had regarded ether as much preferable to chloroform; but experience had compelled him to reverse the preference. He had seen patients with uræmia in pregnancy go into a convulsion while under ether, but not under chloroform, and he always uses the latter now where renal troubles exist. Everything tended to show that we have overrated the safeness of ether and underrated the advantages of chloroform, especially when the latter is perfectly pure. Anæsthesia is always attended with risk, but is least so when a *chemically pure* anæsthetic is used, in the hands of a conscientious and vigilant administrator: without these conditions life may be lost through the effect of any anæsthetic, and with it everything goes to prove that there is as little danger in one as in another.

Dr. John B. Roberts said that the facts were not all given in the history of the case. In his opinion, this was not a case of death from ether, but of death during the use of ether, and associated with a suspicion of kidney disease. Had it been *established* by any prior examination that the kidney was diseased? In regard to the comparison between the safety of ether and chloroform, it must be remembered that ether, enjoying the reputation of harmlessness, is often given without proper care, but that chloroform is always used with a sense of the dangers which attend it. Many surgeons give ether without proper examination of the patient: for instance, not examining the urine. Ether probably taxes the excretory power of the kidneys more than chloroform, because given in much larger quantity: hence if the kidneys are diseased it may cause dangerous symptoms. When, however, we see hundreds of patients etherized without strict attention to their condition, and yet so few deaths, we should not hastily condemn the remedy. In reference to the condition known as renal asthma, he hoped more information would be given, because it is an important topic, of greater novelty than the dangers of anæsthetics, which have been repeatedly discussed in the meetings of the Society.

Dr. Woodbury said that there was a topic suggested by the remarks just made upon Dr. Packard's interesting case which deserved especial mention. He referred to the difference in anæsthetic agents where used in practical medicine from their use in surgery. Ether, which perfectly resembles alcohol in its action upon animals, has a well-known primary stage of stimulation to the circulation, as well as to the nervous and muscular systems; and in medical practice, hypodermatic injections of ether are valuable to stimulate the heart and avert threatened collapse, and in obstetrics they are also employed to produce contraction of the uterus. The full physiological dose of ether produces a deep coma, just like alcoholic coma. Where this

full anæsthetic effect is required, its action is favored by the conjoint or previous administration of alcohol. When death is caused by either agent, it is due to paralysis of respiration and its consequences: therefore, when the lungs are already crippled and ether administered, a fatal result may occur more readily.

In explanation of the greater danger of chloroform over ether, he said that in the physiological process of respiration the air-cells have their contents renewed mainly on the principle of the diffusion of gases; the inhalation of a heavy vapor causes suffocation because it diffuses so slowly that it shuts off the supply of oxygen from the blood. Other things being equal, the danger of an anæsthetic is directly proportional to the density of its vapor;* but chloroform has an additional element of danger from its paralyzing effect on the heart. In a case such as the one reported, in which the fatal result was probably not directly attributable to the treatment pursued, he thought that ether would have been better than chloroform; but he believed that the nitrite of amyl in such cases, of which he had seen several, offered better prospects of relief than any other agent, and he urged its further trial. It is well known that anæsthetics are more dangerous in Bright's disease, because the blood is loaded with waste matter, and the oxygen-carrying function of the red blood-corpuscle is reduced below the normal; the vitality of such individuals is so low that a slight impulse may turn the scale against them. Paget refuses to operate surgically in cases of albuminuria. Certainly in all cases, before operation in our hospitals or private practice, this examination should be made, so that the surgeon may be made aware of the existence of an element of added risk. He was sorry to learn from a preceding speaker that this is not customary in Philadelphia: he knew it to be the rule in leading hospitals in other cities. In strong, healthy individuals, chloroform may be given without very great risk, if skilfully administered; but where the heart or the kidneys are at all damaged, ether is incomparably the safer anæsthetic.

Dr. O'Hara said that chloroform may safely be given in convulsions accompanying pregnancy with high arterial tension, but not in chronic affections, like that detailed by Dr. Packard, where blood and tissues are degenerated. The former are temporary troubles; in the latter there are prominent progressive changes, especially in the heart. Chloroform acts upon the heart, and in chronic Bright's disease all the tissues are weakened.

Dr. A. V. Meigs said that renal asthma is of more frequent occurrence than is commonly supposed. He had seen cases in which the first intimation of the kidney-trouble was an

attack of violent oppression, perhaps during the night. In two such cases death had resulted rapidly; in others life had been prolonged for years. He had seen ether used frequently, perhaps twenty times, when kidney disease was known to exist, and without visible bad result. It should be remembered that a comparison of the use of ether in uræmic convulsions occurring in Bright's disease with ordinary puerperal convulsions cannot be made as parallel cases, for in the one instance the lesion of the kidney is often of old standing, and the alteration of structure great, whereas in the other there is generally, at worst, only a temporary congestion, which usually tends to recovery as soon as the pregnancy is over.

Dr. Packard, in closing the discussion, said that it was important to get an experience as large as possible, and from a wide range of cases. One of the speakers has stated that he uses chloroform entirely in obstetric practice. So far as Dr. Packard knew, no case of death from the use of chloroform in labor or puerperal convulsions is on record. He himself had given ether very freely, with entire success, in cases of convulsions, and especially in one, the worst he had ever seen. As to the relative safety of ether and chloroform in obstetric practice, obstetricians must decide, but surgeons may have to consider the case differently. No instance is recorded in which in a healthy person, or one apparently so, death has suddenly occurred just as the administration of the ether was begun; but many such deaths from chloroform are on record. Ether is given with too little thought in many cases. A general idea prevailing among less experienced surgeons that it is entirely safe, many are led to give it without proper inquiry as to the contra-indications, such as the condition of the kidney. In emergency we cannot always make such inquiry, but it should always be made in cases of deliberation. Whether in a case of known disease of the kidney we should use chloroform in preference to ether is an open question. In the case detailed, the ether was most carefully given; the man was dying from spasm of the bronchial tubes, and Dr. Packard thought ether was indicated. He might have used chloroform if he had considered all the points brought out by the discussion. Dr. Harlan had informed him that in the cases reported by Dr. Norris, and alluded to in the early part of the discussion, death had occurred in from a few days to two or three weeks after the operation. It did not seem to him a clear inference that the ether had caused the fatal result. Patients often say that the effects of the ether remain, and we hear it said that this or that person has never felt well since taking ether. More facts are needed before we can decide the points which have been here discussed.

Dr. Packard reported a

* See article by Dr. Wm. H. Greene in the *American Journal of the Medical Sciences* for April, 1882.

CASE OF RECURRENT GREEN VOMITING AND PURGING—ALSO CASE OF SUPPOSED POISONING BY MERCURY SULPHOCYANATE.

Dr. O'Hara detailed a case in which a child of four years had swallowed a copper cent, and about two months afterwards a second one. Neither coin was discovered, and, as the child began to be subject to fortnightly attacks of gastric pain, with purging and vomiting of green-colored matter, he suspected that the coins were still not passed from the bowel. An examination of the vomit made by him showed numerous epithelial casts of the gastric tubules, and he subsequently had a chemical examination made. Dr. Seiler had made an extended microscopical examination, and had found chlorophyll granules, indicating that the green color was due to vegetable matter, and on inquiry it was found that the child ate frequently of green celery-tops. Dr. O'Hara also detailed a case in which half a box of the toy preparation called "Pharaoh's Serpent Eggs" were eaten by a child. No bad symptoms followed, and it appeared that the eggs were passed by the bowels broken up through the passage. He had used almond oil in treatment.

Dr. Leffmann said that he had made a chemical examination of the green vomit in the first case detailed by Dr. O'Hara, and had failed to find any metallic poison, nor was the color due to biliousness. He had no doubt that Dr. Seiler's microscopic result explained the case. Such cases are uncommon, and have no significance in a toxicological point of view. In reference to the "Pharaoh's Serpent Eggs," they were, chemically, mercury sulphocyanate, and were insoluble in water. If dissolved in the stomach they would probably give rise to symptoms analogous to those of corrosive sublimate.

Dr. Schapringer called attention to a case reported by him to the Society some time ago, in which a peculiar-looking yellow substance expelled by the bowels was found to be parts of an orange.

A CONVERSATIONAL meeting of the Society was held at the Hall of the Society on April 26, 1882.

CASE OF ICHTHYOSIS.

Dr. Schapringer exhibited a case of ichthyosis. He said that the case was a mild one, and might be termed one of xeroderma according to Tilbury Fox. This author uses the designations "xeroderma" and "ichthyosis" for two different degrees of one and the same affection. Dr. Schapringer thought the first term unnecessary, and would designate the case exhibited as one of *ichthyosis of the first degree*.

The case was then examined by the members present.

Dr. M. S. French said that he had seen another case of ichthyosis,—that of a man travelling with a show and exhibited as a "man-fish." The disease was developed in a greater degree than in the patient now shown, the scales being much larger and more abundant. The disease is regarded as being congenital, and is but little amenable to treatment. Hebra describes four cases, and recommends baths of warm oil after the use of a potash soap.

Dr. Shoemaker said the case was a typical one, showing the well-known scales and the hypertrophied skin. The treatment was very unsatisfactory. He had formerly used oils and baths, but had now settled down to applying a soap of which each cake is composed of one drachm of precipitated sulphur, two drachms of powdered German chamomile-flower, and equal parts of olive oil and oil of theobroma, together with enough caustic soda to saponify. This is used every second or third day to remove the scales, followed by inunction with a mixture composed of equal parts of olive oil and ergot oil. Such treatment has given the best results, but he had never seen a case cured.

Dr. M. Landesberg presented a communication detailing some accidents from the use of jaborandi and pilocarpine in diseases of the eye (see page 741).

DISCUSSION ON THE ACTION OF PILOCARPINE AND JABORANDI.

Dr. Blackwood said that if the retina was detached, it could not be the cause of the cataract, as, if so, we should expect the disease of the lens to have been already developed. He did not think jaborandi and pilocarpine adapted for use in diseases of the eye. He had used these remedies very much in various diseases, but had never seen any eye-trouble arise from them.

Dr. Schapringer referred to cataract produced by chronic poisoning with ergot of rye, and to cataract produced experimentally in animals by the subcutaneous injection of grape sugar and other substances, and said that it might be considered doubtful whether the jaborandi was the cause of the lens-trouble in the cases just described, in view of the fact that detachment of the retina also existed, a condition which was generally followed by partial or complete cataract. As to cataract in horses, it would be interesting to know whether cataract in horses did not occur often in consequence of just such choroidal mischief as was present, and perhaps was the cause of the consequent turbidity of the lens, in the case related by Dr. Landesberg.

Dr. Landesberg said that affections of the uveal tract, and detachments of the retina, are frequent causes of cataract, but he could not give the full statistics at present. He had seen many cases of retinal detachment in which the lens remained clear, although watched for many years. In others the

cataract occurs, but he had not heretofore observed such rapid development and maturing as in the cases detailed. Experiment had been made of producing cataract by injection of solution of salt, and then by putting the animal in fresh water the lens would be restored to a clear condition. Similar experiments had been performed with other substances of water-attracting power, such as sodium sulphate, introduced either into the stomach or under the skin, or directly in contact with the eye. The cataract would be developed, and would disappear when the animal was kept in fresh water. Perhaps pilocarpine acts like these substances. He had used it in over a hundred cases of eye disease, and had never seen any untoward results except the five cases detailed, and he had never heard of other cases. He had seen but one case of cataract in the horse following the use of pilocarpine. All the cases noted were treated with pilocarpine, or with jaborandi, on account of the existence of detachment of the retina, for which disease it is an appropriate remedy, because we have to deal with a serous effusion. A few cases do not suffice to establish an opinion as to its action, and he thought that its use is not dangerous. Children especially bear large doses very well; in adults the only bad effect is a little gastric catarrh. It is not a specific for the retinal disease, but is a good remedy.

THE OLEATES IN SKIN DISEASES.

Dr. Shoemaker exhibited specimens of the chemically pure oleates, and spoke briefly of their therapeutic actions.

He observed that the oleates, as he had here exhibited, are of a staple character, and greatly different from the oleic solutions that have been heretofore used. To speak of a five or ten per cent. oleate is as absurd as to speak of a five or ten per cent. sulphate of quinia or atropia, which we know to be compounds of a definite character. These oleates were manufactured by Dr. Lawrence Wolff, of this city, who has found the best and most ready method for preparing oleates by the double decomposition of sodium oleate with solutions of neutral salts.

He then showed oleate of mercury, and also ointments thereof, of 25 and 50 per cent., containing respectively one part oleate to three parts lard in the former, and equal parts in the latter. Therapeutically, it is a local stimulant and alterative; and he has used it with success in the inunction treatment of syphilis, in indurations after abscesses, in excess and deficiency of pigment, in indolent papules, in tubercles, in obstinate ulcers, in cases of enlarged testicle, and in all forms of vegetable parasite, in phtheiriasis, or lousiness, and also in chronic acne and eczema.

He then exhibited oleate of zinc, which he uses in dry impalpable powder or in an ointment. He uses it dusted over denuded sur-

faces in hyperidrosis and osmidrosis. It is most valuable in eczema vesiculosum and in erythema about the groins and axillæ. In herpes, particularly of the genitals, it will cling to the skin, and will not brush or fall off like ordinary dusting-powders.

The oleate of lead he uses in pustular eczema for the itching that is so annoying to the young infants, and in papular eczema, especially that variety found in the flexures of the joints, around the axillæ, and inner parts of thighs and perineum. It is useful in simple lichen, in acne rosacea, and in the fissured form of eczema present on the palmar and plantar surfaces. Combined with sulphur, scabies, or itch, yields more promptly than to other ointments. Oleate of copper mixed with lard forms the ointment of the oleate of copper, which with the unbroken skin produces slight stimulation; with broken skin it stimulates and forms an insoluble albuminate. The most successful results he has had with the ointment of this oleate of copper have been in rapidly curing cases of ringworm of the scalp, as well as of the body. He also uses it for indolent ulcerating surfaces, as well as on hard and horny warts, corns, and bunions.

Oleate of aluminium, when mixed with equal parts of lard, gives the ointment which he uses in checking the muco-purulent discharges that occur in one of the varieties of eczema. He has employed it with success as a dressing in foul ulcers, abscesses, sinuses, burns, and scalds.

Oleate of bismuth is prepared in the form of ointment, which he uses pure in pustular eruptions, particularly syccosis. It is efficacious in superficial erysipelas and in sunburn, also in certain varieties of eczema, especially the papular. In rosacea it is especially useful. He has used it smeared on a sound in subacute gonorrhœa and gleet, with success.

The oleate of iron was shown, as well as the ointment of the oleate, containing equal parts of the oleate and fatty base. The ointment is free from irritation used topically, but upon an ulcerating surface it is mildly astringent. He uses it for a constitutional as well as a local effect in anæmia, scrofula, etc.

The oleate of arsenic is in the form of a precipitate, twenty grains of which, added to one ounce of lard, form the ointment he exhibited. It has no action on the skin except when abraded; in wounds, or ulcerating and granulating surfaces, it excites active inflammation. He uses it in lupus, in epithelioma, on warts, condylomata, nævi, corns, horns, and old granulations.

The oleate of silver is in the form of a fine powder, which, sprinkled over old chronic ulcers, bed-sores, and exuberant granulations, will set up a healthier state of the parts. The best effect, however, he obtains from the ointment containing one drachm to the ounce of fatty base. He uses it in erysipelas, lupus,

boils, and carbuncles, and often arrests pustulation.

An intolerable itching of the meatus auditorius, the anus, and the genitalia may often be quickly relieved by applying the ointment, either alone, or combined with opium, belladonna, or the like.

Dr. Shoemaker then exhibited the oleates of quinine, morphia, atropia, magnesium, lithium, calcium, antimony, tin, etc., which are at present of little therapeutic value so far as dermic medication is concerned, and are mentioned only for the benefit they may ultimately prove to possess for internal exhibition.

He recommends the oleates for the following advantages which they possess over the ordinary ointments: first, their deep penetration; secondly, their freedom from rancidity; thirdly, their cleanliness of application; fourthly, their great economy; and, fifthly, their antiseptic action.

A great drawback is the lack of knowledge that the majority of pharmaceutical chemists have, at the present time, of their manufacture, and he directs that you always examine their products, and see that they possess all the physical properties he has shown by the most excellent specimens of true and staple oleates.

Dr. Leffmann said that while he had no opinion to express as to the therapeutic value of the chlorinated oil, he desired to say that, according to his experiments it did not contain any free chlorine or muriatic acid. He had examined a specimen with care, and from the general value of the action of chlorine in these cases, and from a reference to some of the authorities, he had no doubt that the chlorine all existed in substitution for the hydrogen in the original oil, and the substance could not be supposed to contain chlorine in the ordinary active condition.

Dr. Shoemaker, in answer to a question, said that the odor of the oleates had given no trouble in practice, as only a small quantity was required at one time, and they were rapidly absorbed. In reference to the chemical composition of the *oleum chlorinatum*, he had not examined it, and was not prepared to speak, and, indeed, the point as to whether it did or did not contain free chlorine was of little importance: he had brought it before the Society as a therapeutic article, and not for its chemical character. He had been given to understand by the chemist, Dr. Wolff, who prepared it, that this particular sample contained about fifty per cent. of chlorine in chemical combination.

A CLINICAL meeting of the Society was held at the Hall of the Society on May 17, 1882.

ABDOMINAL CANCER.

Dr. J. M. Keating exhibited a specimen of abdominal cancer, and detailed the follow-

ing clinical history. The patient, a woman, 60 years old, had been strong and always in good health up to nine months ago, when the abdomen began to enlarge and become painful. Dr. Keating was consulted, and, finding the enlargement and pain increasing, he decided, after consultation with Dr. Agnew, to make an effort to draw some of the fluid. About two gallons of a fluid like ovarian fluid, but lacking the characteristic cells, were removed. It contained epithelial cells and blood-corpuscles. The tumor was evidently cystic. It was judged that no uterine or rectal cancer existed. The urine was not affected, but vomiting, constipation, and a peculiar drawing pain were noticed among the symptoms. The patient had died a few days ago of asthenia. The post-mortem showed the abdomen distended by a large amount of fluid not ovarian, but encysted ascites. The bladder was attached to the peritoneum, which was injected, and showed numerous cancerous nodules, exhibiting all known varieties of cancer. The bladder was completely cancerous. The liver and kidney were highly fatty, and showed a few cancerous deposits on the outer surface. The uterus had a schirrous mass about the size of a marble within its wall. The patient's family history presented no indication of cancer, and the remarkable point was the entire *absence of disturbance* of the flow of urine, although the bladder was so completely diseased.

Dr. Parish recalled a case he had seen last summer, in which he had made a diagnosis of cancer in close proximity to the uterus, though not involving that organ, except to fix it by adhesions, and not presenting the symptoms of cancer of the uterus. The case had begun with a metritis following abortion; this got apparently well, but was followed by a tumor and pain in the right iliac region. Subsequently he aspirated a small cyst through the vagina. The patient died after the development of symptoms of cancer of the stomach.

Dr. Nancrede alluded to the absence of urinary symptoms in the case under discussion, and mentioned a case he had seen in which calcification of the internal coat of the bladder had progressed so far that it was almost like a parchment bag, and it seemed as if it could not possibly contract efficiently, yet no indication of the condition had been given during life.

PATHOLOGICAL SPECIMENS.

Dr. Schapringer exhibited some pathological specimens, including a calcareous concretion which had been expelled by coughing and which looked like a cast of a bronchus. He also showed a specimen of the itch insect.

DISCUSSION ON THE EFFECTS OF RETAINED PLACENTA.

Dr. Horace Ladd said he was much interested in the paper of Dr. Parish, and con-

sidered it an admirably expressed *résumé* of what had been his own experience. He always preferred his fingers to any instrumental appliance for the removal of adherent placenta, where he can possibly accomplish that indispensable end therewith.

Dr. Montgomery said he heartily endorsed the views advanced by Dr. Parish, and in his own practice never allowed the placenta or any portion of it to remain. Its retention prevents the proper contraction of the uterus, keeps open the sinuses, thus affording ready entrance for the septic poison, and by its decomposition affords the septic material. He instanced cases of puerperal septicæmia resulting from retained placenta.

SPECIMENS OF HYDROCEPHALUS.

Dr. Lodor exhibited a greatly enlarged head, apparently hydrocephalous: the subject was evidently about 20 years of age. The skull was of very unequal thickness, being in some places as thin as paper, and at other places over an inch thick. The base showed striking irregularities. Dr. Bruen, on behalf of Dr. Musser, showed a brain from a hydrocephalic case.

AORTIC ANEURISM.

A patient suffering from aneurism of the aortic arch was exhibited by Dr. Deaver.

A CONVERSATIONAL meeting of the Society was held at the Hall of the Society on May 24, 1882.

DISCUSSION ON THERAPEUTIC DOSAGE.

Dr. O'Hara said that the paper contained many points of interest, and should be briefed and placed in the hands of every member during the discussion; but he thought physicians were frequently deceived as to the value of remedies, and instanced a case which seemed to indicate the value of hyoscyamus in muscular tremors; but it was afterwards discovered that these tremors were due to heat-exhaustion, and improvement in the case occurred on the setting in of cool weather. Dr. O'Hara also called attention to the fact that calomel would salivate, while corrosive sublimate would hardly do so. The paper embraced matters which would require intimate acquaintance with physiology and neuropathology, and every element of personal fallacy in judgment ought to be sought for, so as to avoid the "*post hoc ergo propter hoc*."

Dr. Bartholow said that he had expected that the paper would take a wider range. He called attention to the society recently formed in Paris which gave special attention to the "dosimetric system." In reference to the use of potassium iodide, it had been his experience that large doses were necessary in aneurism and syphilis. The drug was eliminated so rapidly that these large doses were

required to secure the thorough impression or saturation of the system, as it is one of the most diffusible of agents. He agreed with Dr. O'Hara that calomel will salivate, while the corrosive chloride will rarely do so.

Dr. Blackwood remarked that calomel, in relieving the so-called bilious derangement commonly met in summer, could not act in homœopathic doses; but it did in the case of one-eighth to one-twelfth of a grain, hourly repeated, the stools soon becoming in most cases liquid.

Dr. Geo. Hamilton referred to the want of conformity, or rather the antagonism, in the action of large and small doses of calomel in cholera or diarrhœa, and in illustration cited the case of a strong, healthy woman, who had been treated during two days by astringents, anodynes, and minute doses of calomel and opium, for the arrest of a violent attack of cholera, but without benefit. The discharges had become almost colorless, and often compelled the patient to use the commode every ten or fifteen minutes, so that she was well-nigh exhausted. In consultation, the late Dr. Gebhard advised Dr. H. that this treatment be abandoned, and that from twelve to eighteen grains of calomel, in a single dose, should be given. In accordance with this proposition, twelve grains were at once taken, and with such effect that the patient had neither purging nor vomiting until ten hours after the dose was taken; at the second stool bilious matter reappeared, and thus all anxiety about the case was removed.

In somewhat singular contrast with this action of a large dose, Dr. Hamilton had found that in not a few cases a very minute portion of calomel sufficed to act as a purgative, so that he had not seldom obtained this effect from a single grain, divided into six parts, with sugar, placed upon the tongue every hour or two, followed by a spoonful of water.

In closing the debate, Dr. Bruen said that his remarks could not as yet be generalized so as to include a law for the universal use of alteratives in given dose. His position was that, since an alterative must modify constructive growth or hasten retrograde metamorphosis, he thought Gubler's definition more happy than most theoretical statements. The system must be saturated with a drug. Undoubtedly some drugs are rapidly eliminated, but he claimed a trial for the slow continuous impression of the tissues when it is desired to modify their organic structure or their functional life. It is analogous to the use of food as a renewer of life.

His experience was that small doses of calomel would salivate more rapidly than small doses of corrosive sublimate, and in this he coincided with Dr. O'Hara; but he had found that in one-fiftieth grain doses salivation had not occurred often, although sometimes this effect was produced. In a

one-fiftieth grain dose of calomel he thought that probably the constitutional effect was about equal to that of the allied drug; but calomel was less irritating, in his experience, and therefore was to be preferred.

In reply to Dr. Hamilton, he called attention to the fact that his paper did not discuss the use of calomel as a purgative.

In reply to Dr. Lee, relative to the frequency with which the doses are advised, Dr. Bruen said he gave the iodide of potassium but once daily, the calomel three or four times daily.

REVIEWS AND BOOK NOTICES.

ELECTRICITY IN SURGERY. By JOHN BUTLER, M.D. Pp. 111. Philadelphia, Boericke & Tafel, 1882.

This latest monograph on electro-surgery is a small book, but it contains much that is valuable, and yet little really new. If one point alone insisted upon—that of definite current measurement—is carefully studied by purchasers of the volume, it will repay them and their patients, and will do much towards setting the judicious use of electricity upon a scientific basis. Nearly all failures in electro-therapeutics are attributable to improper dosage, and attention to this matter is just as necessary as it would be with strychnia or curare. The author is enthusiastic, but the book is a good one, and will repay perusal.

W. R. D. B.

AN INDEX OF SURGERY. By C. B. KEETLEY, F.R.C.S. Published by William Wood & Co., New York.

This book of three hundred octavo pages presents to the reader what may be considered the notes of an intelligent, observing, and critical listener,—one who has diligently followed his teachers through the wards of the hospital, and patiently heard theories and doctrines discussed in the lecture-room. There is found throughout its pages a concise synopsis of surgery as taught in the English schools at the present time. The book is intended by its author as a help for senior students at their final examination, and also as a reference for the practitioner. It is not to take the place of the text-book or the manual, and does not pretend to teach surgery, but to act as a stimulant to previously-acquired knowledge. Such being the object of the book, and if used for this purpose only, it is a work well done; but, unfortunately, this class of books is too frequently employed as a short cut to knowledge, and hinders in a great degree that solid foundation only to be obtained by a thorough course of study.

J. H. C. S.

JOHNS HOPKINS HOSPITAL is about half finished, and, according to a correspondent of the *Boston Medical and Surgical Journal*, it will require about six years longer before patients can be admitted.

GLEANINGS FROM EXCHANGES.

NEPHRECTOMY BY ABDOMINAL SECTION—RECOVERY.—F. B. Archer, of Barbadoes (*Lancet*, July 1), reports the following rare case:

M. E. A. L., a widow, aged 50, was admitted into the General Hospital, Bridgetown, Barbadoes, West Indies, on September 13, 1880, under my care. She had had five children. The menses stopped about eight years ago, soon after a fall which fractured one of the lower ribs on the right side. While ill in bed, suffering from this, she observed a lump about the size of her fist on the right side of the bowels. This lump has never disappeared, but has slowly grown to its present size. It has caused her no particular trouble, but she has lost flesh. Her appetite and general health are good. She has never been tapped. Ten months ago she was in this hospital, and an ovarian cyst was diagnosed, and an operation advised. This she declined, and returned home. She now begs to have something done. Urine contains a little albumen. On microscopical examination no casts are seen. Temperature normal.

On September 14 she was put under chloroform, and then ether substituted. Under a spray of carbolio acid an incision was made and a good many adhesions broken down. The cyst seemed matted to the right kidney, and on attempting to clear it the weight of the cyst tore the kidney, and considerable hemorrhage occurred. A clamp was put on, a ligature applied, and the kidney and tumor removed. It contained eighteen pints of fluid, and the cyst itself weighed five pounds. The patient was now in a great state of collapse. A drainage-tube was inserted, and the wound closed. She vomited five times after the operation, complained of great shortness of breath and pain in the head. An ice-cap was applied, which relieved her much. Temperature 99.8°. Allowed ice to suck.—15th: Slept at intervals during the night. A catheter was passed, and one ounce of bloody urine was drawn off. A nutrient enema was administered at 1 A.M. She complained of shortness of breath and pain in the bowels. At 1.30 P.M. she vomited. At 2 P.M. the dressing was changed under the spray. Temperature 101.4°. The catheter passed urine the natural color. A nutrient enema was given every sixth hour. At 9 P.M. the temperature was 100.8°; pulse 112.—16th: The patient had a good night. A catheter was passed every sixth hour. She was allowed a little iced milk and brandy at intervals. She complained of great pain in the abdomen. One-third of a grain of morphia was given hypodermically. The dressing was changed. The bowels acted naturally at 5.30 P.M. There was no vomiting. She still complained of pain in the abdomen. The temperature was 100.8°. —17th: The patient had a good night, and

at 6 A.M. enjoyed a cup of tea. The wound was dressed, and the bowels acted. The temperature rose to 101.8°, but dropped again to 100°.—18th: She had a good night. The pain in the bowels was less. The catheter was discontinued, also nutrient enemata. She took milk and beef-tea regularly. The wound was dressed, and the drainage-tube removed.—20th: The patient continued to sleep well; felt better, and took nourishment well. The temperature ranged between 100° and 101°.—21st: The wound was dressed, and three sutures removed.—23d: She was free from pain; bowels acted yesterday and today; getting on well.—25th: Remaining sutures removed. Urine examined, not albuminous.—26th: She was allowed boiled eggs for breakfast and fish for dinner. Perspired very freely. A mixture, containing quinine and tincture of perchloride of iron, was ordered to be taken three times a day.—28th: She was lifted out of bed for it to be changed. She felt stronger; ate and slept well.

November 1: Patient doing well.—5th: Anæmic, so the iron mixture was still continued. Complained of great pain in the bowels.—6th: Temperature 102.4°. Aconite in drop doses given every hour.—7th: Temperature 100°. Felt much better.—12th: Wound quite healed.—27th: Was troubled with a little cough, and the temperature ranged between 100° and 101°, occasionally rising to 102°.

December 11: A mixture containing tincture of ipecacuanha, syrup of wild cherry bark, and compound tincture of camphor was ordered to be taken every fourth hour.—25th: Cough did not improve, so the mixture was changed to hypophosphate of soda, 160 grains; dilute phosphoric acid, 4 drachms; glycerin, 1 ounce; compound tincture of cinchona, 1 ounce, to infusion of cascarrilla, 8 ounces. Half an ounce to be taken three times a day. She took this regularly for one month, and rapidly improved. The cough disappeared, the temperature diminished, and she was soon able to walk.

January 9: The temperature had become normal, and remained so.

On March 14, 1881, she left the hospital quite well. By the last account she was enjoying good health.

Mr. Knowsley Thornton, through whom the notes are forwarded for publication, remarks that this is one of the best cases of nephrectomy yet published, due regard being paid to the quantity of fluid contained in the cyst, and the weight of the latter, the age of the patient being also taken into consideration. Convalescence, however, was very slow.

OCULAR SYMPTOMS IN TABES DORSALIS.—Dr. Sons has attempted to discover whether, given certain ocular symptoms, such as asthenopia, diplopia, ophthalmoplegia single or multiple, etc., it is possible to predict that the patient will become ataxic (*Jour. de Méd. de*

Bordeaux and de Paris). Such symptoms are either (1) dependent on changes in the optic nerve, or (2) produced by lesions of other nerves. Of the first class, those which are apt to end in ataxy are: (a.) Gradual loss of sharpness of vision down to total blindness, this being unattended with ophthalmoscopic symptoms. (b.) The diminution of the field advancing by sectors, vision being normal in the region unattacked. This may result at a certain stage in total blindness over the external half of the field. (c.) The disk preserves its form, but loses color, becoming chalky-gray under a strong light, bluish under a weak light; its contours are regular, but the vessels may ultimately disappear. (d.) The perception of color changes, especially as regards green and red. Of the second class, the following combinations are most characteristic: (a.) Transitory paralysis and spasms of the motor muscles, especially of those supplied by the third nerve: these may show themselves by transient strabismus or diplopia. (b.) Myosis; insensitiveness of the pupil to light; it does not dilate in darkness, but does when distant objects are looked at, and during attacks of lightning-pains. Many of these symptoms are found connected with disseminated sclerosis. Certainty can, of course, be reached only by watching the further progress of the case.

SCIATICA.—In a clinical lecture on "sciatica," Mr. Jonathan Hutchinson (*Med. Times and Gazette*) says, "In nineteen cases out of twenty in which the diagnosis of 'sciatica' is suggested, there is no affection of the sciatic nerve whatever. They are simply cases of arthritic disease of the hip in one or other of its various forms,—acute gout, chronic gout, rheumatic gout, subacute rheumatism, or chronic senile rheumatism. Both by the public and the profession these cases are constantly called 'sciatica.' Our work-house infirmaries are full of chronic cases under that name, and I speak advisedly when I say I feel sure that they are almost all examples of *morbus coxæ senilis*. Of the cases of 'sciatica' which are not hip-joint rheumatism, some are probably affections of the fascia or periosteum near to the hip; a minority are possibly affections of the sciatic nerve itself. In these latter it is the sheath of the nerve which becomes painful. The pain may be darting, or may radiate, but it does not pass down the nerve-tubules or in any way make the patient conscious of their course. The diagnosis of true sciatica is to be based upon the discovery of tenderness restricted to the trunk of the nerve and involving a considerable part of its course. Examples of this are decidedly rare, and their recognition without risk of error is a matter of great difficulty.

CURE OF VARICOCELE BY INTRAVENOUS INJECTION OF CHLORAL.—Dr. Angelo Negretto reports two cases of severe varicocele

which he successfully treated by Porta's method. The first (left side) had existed for over two years, and was as large as a pigeon's egg, the diameter increasing on effort to four and a half centimetres. It caused severe pain and partial atrophy of the testicle. Four injections, each of half a gramme, of chloral hydrate were made with a Pravaz syringe at four several points into the covering of the varicocele. A slight grumous exudation from the punctures ensued, and on the following day some signs of orchitis. These were overcome by cold carbolized applications; and, as the upper part of the tumor seemed unaffected, three more injections were practised there. In six days the patient was well, and the varicocele gone. It has not reappeared since. The other case (also left) had existed five years, and was larger and harder than the foregoing, owing probably to repeated attacks of phlebitis in the varicose veins. A slight degree of inflammation along the spermatic cord existing, the patient was first treated with lead lotion. Five injections of chloral hydrate (half a gramme) were administered as before, resulting in great diminution of the tumor. In a week three more injections were given, and the result, with some slight intercurrent inflammation, was complete and permanent cure. The various methods of treating varicocele are so numerous and so little satisfactory in many cases that a new and hopeful one is by no means unwelcome. This of Porta is not widely enough known, though it has the decided merit of being less dangerous than many in current use.—*Gazzetta Medica Italiana: Practitioner.*

MATERNAL IMPRESSIONS AND ACEPHALOUS FÆTUS.—In the *Obstetric Gazette* for May, Dr. J. S. Haldemann, of Zanesville, Ohio, reports the following curious case:

"I was called to see Mrs. S., aged 45, living in the fourth ward, March 6, 1882, at eleven o'clock P.M., in her ninth confinement, who gave birth to twins, weighing, perhaps, $3\frac{1}{2}$ pounds each: both females. One was deformed. The cranium was almost entirely absent, and there was a space of about half an inch above the eyebrows and ears. A thin, florid tunical covering enclosed the part where the cranium should have been. The ossa parietalia were wanting, and also fully the upper three-fourths of the os frontis and occipitalis. The eyes were large, full and bright, nearly, if not altogether, the size of those of a full-grown person. The superciliary ridges were very prominent, and covered densely with brown hair. A space fully an inch wide existed between the supercilia, giving it very much the appearance of an owl's head.

"From the eyes down its formation was natural. The other child was very feeble, and survived but a very short time. The deformed one gave no signs of vitality at birth,

yet it appeared natural, having a smooth and white skin, and had no indications of decay. There was an extraordinary amount of liquor amnii. As a matter of course, I could not give the exact quantity. It saturated the bed-clothing (consisting of two comforts and one coverlet, each doubled, and one 'husk tick'), and ran through upon the floor, producing quite a stream. One of the ladies present declared that, in her judgment, it would have filled two ordinary wooden buckets, which would be about five gallons. When it occurred they could not divine what was 'up,' and wished to know of me if she did not have the dropsy!

"She stated to me that she went her full time, and I had no reason to doubt it. When I first mentioned the deformity to her (before she saw it), and asked her if she ever, during the period of gestation, had received a fright, she answered me emphatically 'no.' But when the child was shown to her, and she fully saw it, she exclaimed, 'Oh, those are the eyes and brows of my brother John!' Her brother John had been killed on the railroad, and brought home for interment. She was present, and saw him, when her second month of pregnancy had just passed. He was greatly disfigured, and his eyebrows and face were enormously swollen. She says she only got a view of his ghastly puffed eyebrows, when one of her sisters requested her to retire from before the coffin, which she instantly heeded.

"In my opinion it was then, and at the coffin, and from the sight of the disfigurement of her dead brother, that the foetal impression and consequent deformity was made, and the further cranial development suspended. In this case there can be no other visible cause assigned for it. Then does not this, with numerous other instances on record, satisfactorily remove from the medical mind the theory entertained and advocated by many, that such deformities are not thus brought about?"

THE ANTISEPTIC TREATMENT OF PHTHISIS PULMONALIS.—The *British Medical Journal* for July 1 contains a clinical lecture by J. Burney Yeo, M.D., on "The Antiseptic Treatment of Pulmonary Consumption," and three communications on similar topics,—one on "The Local Treatment of Phthisis by Carbolic Acid," by Robert Hamilton; one on "Observations on the Use of the Hypophosphites in the Treatment of Phthisis Pulmonalis," by John C. Thorowgood, M.D.; and one on "The Theory of Infection [in Phthisis], and its Influence on Treatment," by Dr. W. R. Thomas. In the lecture the use of a respirator, with antiseptic agents to medicate the air, in the essays carbolic acid, creasote, or tar, are equally attended with good results, while the hypophosphite of lime or soda in the second article gives also satisfactory results, but without local treatment. It is demonstrable that antiseptics are not necessary to

a cure, but the inference is warranted that a patient will have the best chance of recovery from a judicious combination of both local and general treatment. For inhalations, carbolic acid, creasote, spirits of turpentine, eucalyptol, thymol, terbene, camphor, fir-wood oil, solution of tar in spirits, tincture of benzoïn, iodine, etc., have all been used. Where the cough is considerable and especially annoying at night, some spirit of chloroform may be added to the creasote or other agent, with benefit. Benzoate of soda spray has also been used with good results. Dr. Yeo, however, insists upon the importance, in addition, of selecting an elevated, healthy place of residence,—one, especially, not too crowded with other consumptives, nor where the patient will be confined much to the house with bad weather. The details of several very interesting cases are given by the lecturer, in which the local antiseptic treatment was efficient in securing improvement when combined with hygienic care and appropriate constitutional remedies, such as iron, quinine, cod-liver oil, and hypophosphite of lime. A form of respirator easily constructed and inexpensive is figured and described for continuous inhalation of the volatile substances already mentioned.

LAPAROTOMY FOR INTESTINAL OBSTRUCTION.—A young girl, 16 years of age, suffering with constipation, vomiting, and abdominal pain, after being dosed with purgatives by her mistress for three days, without result beyond increase of the symptoms, was seen by Dr. Jos. Bell (*Edinburgh Medical Journal* for July), who found these symptoms, but no special tenderness in flanks or abdomen; pulse and temperature both normal. Nothing was made out by abdominal manipulation except a small deep-seated point of extra resistance, about one and a half inches to the right of the mesial line of the abdomen, just below the level of the umbilicus. The diagnosis of intestinal obstruction was made, and opium treatment instituted, with ice and large enemata. Four days later, laparotomy was performed with antiseptic precautions, and an intussusception, a volvulus, and an incarceration of a loop of intestine by a tight band were successively found and released. The patient survived the operation only twelve hours. The case is interesting from the fact that the diagnosis was made during life, and laparotomy performed earlier might have averted the fatal result.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM JULY 9 TO JULY 22, 1882.

GREENLEAF, C. R., MAJOR AND SURGEON.—Now awaiting orders, to report in person to the Commanding Officer, Columbus Barracks, O., for duty as post-surgeon at that post. S. O. 160, A. G. O., July 12, 1882.

FORWOOD, WM. H., MAJOR AND SURGEON.—To report in person to the Lieutenant-General at Fort Washakie, Wyoming, on or about July 23, 1882, for duty as surgeon and naturalist on the tour of inspection and exploration to be made by the Secretary of War and the Lieutenant-General. S. O. 70, Department of the Platte, July 6, 1882.

BROOKE, JOHN, CAPTAIN AND ASSISTANT-SURGEON.—Having reported at these headquarters, is assigned to duty as post-surgeon at Angel Island, California. S. O. 120, Military Division of the Pacific and Department of California, July 7, 1882.

CORSON, J. K., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Arizona, to proceed to Philadelphia, Pa., and, on arrival, report by letter to the Surgeon-General. S. O. 164, A. G. O., July 17, 1882.

CARVALLO, C., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from further duty in Department of the Platte, and to report by letter, at the expiration of his present sick leave of absence, to the Surgeon-General. S. O. 164, c. s., A. G. O.

GIRARD, J. B., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Fort Grant, A. T., and assigned to duty at Fort Lowell, A. T. S. O. 106, Department of Arizona, July 3, 1882.

BYRNE, C. B., CAPTAIN AND ASSISTANT-SURGEON, FORT BARRANCAS, FLA.—Granted leave of absence for one month, with permission to leave the department and to apply for an extension of two months. S. O. 68, Department of the South, July 12, 1882.

HAVARD, VALERY, CAPTAIN AND ASSISTANT-SURGEON.—Relieved from temporary duty at these headquarters and at post of San Antonio, and assigned to duty as post-surgeon at Fort Duncan, Texas. S. O. 68, Department of Texas, July 5, 1882.

FINLEY, J. A., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as post-surgeon at Fort Concho, Texas (Fort McKavett abandoned). S. O. 68, c. s., Department of Texas.

BARNETT, RICHARDS, CAPTAIN AND ASSISTANT-SURGEON.—To accompany the Brigadier-General commanding on his journey to Forts Bridger, Wyo., and Thornburgh, Utah. S. O. 70, Department of the Platte, July 6, 1882.

POWELL, J. A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report to the Commanding Officer, Fort Davis, Texas, for duty (Fort Stockton, Texas, abandoned). S. O. 68, c. s., Department of Texas.

GORGAS, W. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Havard, to report to the Commanding Officer, Fort Brown, Texas, for duty. S. O. 68, c. s., Department of Texas.

HOPKINS, WM. E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report by letter to the Commanding General, Department of the East, for assignment to temporary duty. S. O. 164, c. s., A. G. O.

MUNDAY, BENJ., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—Assigned to temporary duty at Willet's Point, N. Y. S. O. 164, c. s., A. G. O.

BARROWS, CHAS. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to Commanding General, Department of Arizona, for assignment to duty. S. O. 164, c. s., A. G. O.

WILSON, GEO. F., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to the Commanding General, Department of the Columbia, for assignment to duty. S. O. 164, c. s., A. G. O.

OWEN, WM. O., JR., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to the Commanding General, Department of the Columbia, for assignment to duty. S. O. 164, c. s., A. G. O.

EOAN, PETER R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—Assigned to temporary duty at the recruiting depot, David's Island, N. Y. S. O. 164, c. s., A. G. O.

WAKEMAN, WM. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—Assigned to temporary duty at Columbus Barracks, Ohio. S. O. 164, c. s., A. G. O.

EVERTS, EDWARD, FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to Commanding General, Department of the Columbia, October 1, 1882, for assignment to duty. S. O. 164, c. s., A. G. O.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 12, 1882.

ORIGINAL COMMUNICATIONS.

THE PRESENCE OF THE MICROCOCCUS IN THE BLOOD OF MALIGNANT MEASLES: ITS IMPORTANCE IN TREATMENT.

*Read before the College of Physicians of Philadelphia,
June 7, 1882,*

BY JOHN M. KEATING, M.D.,

Lecturer on Diseases of Children in the University of Pennsylvania, Visiting Obstetrician to the Philadelphia Hospital.

I PROPOSE to present for your consideration this evening the report of a recent epidemic in the Children's Asylum of the Philadelphia Hospital. The ward in which the disease first showed itself contained children between the ages of two and three years; some of them had been deserted by their mothers, and others had been placed there temporarily whilst the mothers were employed in duties about the establishment. For the most part, these children presented a fair appearance of health; they were seemingly well nourished, of good development, though probably they would have been classed as "strumous," if their large features and tendency to glandular enlargements and eczematous eruptions had received careful attention. Together with all children of this class living in asylums, they certainly presented an open field for the production of those complications that are usually such fatal attendants upon measles.

In order to save time, I shall in this paper simply narrate the history of the cases. The little patients were zealously cared for by Dr. H. E. Campbell, Resident Physician, to whom I am indebted for the record of the notes taken at each of my visits.

I shall also embody in this report the investigation undertaken by Dr. Henry F. Formad, now well known as the patient and thorough investigator of the microscopic appearance of the blood in diphtheria, associated with Dr. H. C. Wood, under the auspices of the National Board of Health. Dr. Formad examined almost daily the blood of each little patient, and together we noted the presence of micrococci in the malignant cases, and their absence in those of mild type. A record of these examinations was kept by Dr. W. A.

Edwards, Assistant Pathologist, as also the records of the post-mortem examinations, and to him I am indebted for them. We entered this study with no preconceived views: the rapidity with which this exceedingly fatal epidemic came upon us necessitated careful study in order to attempt, if possible, to discover its cause. I present also some photographs, which show well the appearance of the field in these cases.

Case I.—J. F., aged 2 years and 3 months, was taken sick April 12, 1882. There had been no cases of well-defined measles in the house at that time, although it was epidemic in the city. The child had a sore throat, some cough, with fever. The throat-eruption was punctated and well marked. The child died in convulsions April 15, 1882.

Autopsy.—An ante-mortem (chicken-fat) clot was found in the right heart, extending into the pulmonary artery. There was great systemic venous engorgement. A decided staining was noticed upon the cadaver, especially about the temple, which caused the remark that the disease was probably one of the exanthemata. This child had been placed upon carbonate of ammonia, quinia, and digitalis; had had bromide of potassium, hot baths, and stimulants in small quantities.

Case II.—M. J., aged 3 years and 5 months, was taken sick April 9, 1882. A slight eruption on the face was noted April 11, 1882; the next day the eruption was complete over the entire body. In this case the eruption was irregular, was decidedly that of measles, but of malignant type. Still, she did well until April 17, 1882, when suddenly the breathing became harsh, and pulse was rapid. At 4.30 P.M. had an attack of suffocation, with rapid feeble pulse. There was general venous engorgement; the face and lips were purple; pulse growing more rapid. Hot baths with mustard and frictions were used, and carbonate of ammonia and digitalis given. It was suggested to bleed in this case, but the evidences of heart-clot were so marked, and the child had exhibited so many evidences of malignancy at the onset, that baths were used instead. April 11, 1882, at 3 A.M., she was still growing worse despite treatment, and shortly after had a violent convulsion and died.

There was no autopsy permitted.

Case III.—A. G., æt. 16 months. Took sick April 15, 1882.

April 16 had prodromes of measles. The temperature and pulse ran as follows:

16th.	P.M. 102°.
17th.	A.M. 101°, P.M. 103°, pulse 180.
18th.	A.M. 102°, P.M. 103°, pulse 180.
19th.	A.M. 101°, P.M. 102°, pulse 160.
20th.	A.M. 101°, P.M. 102°, pulse 148.
21st.	A.M. 100°, P.M. 100°, pulse 180.

In this case no defined eruption appeared on the body, although there was a decided papular eruption on the uvula and anterior half-arches of the throat. Whilst showing this case to the class, we noted streaks of grayish membrane in the fauces. The child had decided bronchitis, and the voice showed that the laryngeal mucous membrane was also affected. This child was not at that time very ill. There was no question in our minds at the time that it was affected severely by the measles poison,—that it was, in fact, another malignant case. It was carefully watched, the nourishment regularly given with quinia and iron daily, as was customary in all the cases.

On the 21st the breathing was noted as peculiar (I shall describe it hereafter). An emetic was ordered of ipecac, fearing an accumulation of mucus from the bronchitis present, and also carbonate of ammonia and digitalis and hot foot-baths were given. The child's intelligence seemed good, and it will be noted that the temperature was but 100°, while the pulse was 180.

At 8 P.M. a second attack of suffocation occurred, and the child died in violent convulsions. The venous engorgement was very marked.

Autopsy.—A. G., baby, aged 1 year. Post-mortem examination held ten hours after death.

Heart. Left side and valves all normal.

Right side. A large ante-mortem clot filling the cavity of the right ventricle, and extending into the auricle; a clot was also seen in the pulmonary artery.

Lungs. Left, normal.

Right lung. At the base of this lung the lesions of pulmonary congestion were seen, especially where the lung approximates the diaphragm.

Intestines. Slightly congested and hyperæmic.

Mesenteric glands. Enlarged and infiltrated by simple congestion.

Kidneys. Normal.

Blood. Taken from the heart-cavity as soon as it was opened and examined showed micrococci in the liquor sanguinis and in the white blood-corpuscles.

Case IV.—J. F. McH., æt. 23 months. This child had a typical attack of measles. The case was shown to my ward class several times throughout its course, the eruption was studied carefully in all of its details, and my friend Dr. John M. Taylor obtained for me an excellent representation of the measles in water-colors from this case. I refer especially to these points as evidence that the epidemic was one of measles: the cases heretofore were so irregular as to leave room for doubt to those hearing the recital of their histories. The eruption was rapidly disappearing, and desquamation had set in. April 21 the bronchitis seemed to be aggravated, the

respirations were 36, and expirations seemed unusually prolonged. The breathing was noisy; the heart's action was rapid, pulse 148. Suddenly, in the evening, an attack of suffocation came on, which was relieved by an inhalation of nitrite of amyl. On the morning of April 22 the heart was beating 168; the venous engorgement was very marked, the jugular veins standing out like whip-cords, the respirations were from 36 to 40, but the temperature was 99°. I saw the child at this time, and noted the gasping breathing, the feeble pulse, and the tumultuous action of the heart. There seemed to be capillary spasm, judging from the gasping breath, the imploring look which the child gave to all its attendants, and we at once gave an inhalation of nitrite of amyl. In a few moments it seemed relieved. The administration of carbonate of ammonia, digitalis, hot baths, etc., was rigidly adhered to. The child seemed comfortable until 4 30 P.M., when it had another attack of milder character, though longer duration, and in it finally died of convulsions. It was observed, says Dr. Campbell in his notes, that the convulsion was not as severe as in the previous cases.

Autopsy.—J. F. McH., post-mortem made twenty hours after death.

Eruption not well marked.

Heart. Right ventricle contained a small ante-mortem clot. This clot was in the cavity of the ventricle, and did not involve the valves, either tricuspid or pulmonary. The left side of the heart was normal in every respect; contained no clot.

Lungs. Normal, with the exception of hypostatic congestion at both bases. The pulmonary and costal pleura of the left side were inflamed and adherent in some places.

Trachea. Inflamed, and containing a tenacious mucous secretion.

Larynx. Inflamed and hyperæmic.

Liver. Normal.

Intestines. Peyer's patches and the solitary and agminated glands infiltrated and hyperæmic.

Mesenteric glands. Enlarged and infiltrated; they were about the size of a grain of corn.

Kidneys. Normal.

Spleen. Amyloid bodies enlarged until they presented almost the appearance seen in a tubercular spleen.

Blood. Taken from heart as soon as punctured. Micrococci were found in the liquor sanguinis and in the white blood-corpuscles, and they were mobile. In the corpuscles they were seen in great numbers in active movement of a vibratory or whirling character, and they appeared to have devoured the white cells. No bacilli were seen.

Case V.—J. McG., æt. 26 months. Ordinary case of measles. The eruption had disappeared on or before April 15.

April 22. Child restless; marked bron-

chitis; cough paroxysmal upon waking, especially after excitement; mucous râles coarse, and fine throughout lungs posteriorly; throat congested, and saliva at times tinged with blood. At this date the breathing was noted as noisy. Pulse 144, respirations 32, temperature 100°.

April 23. Mucous râles becoming general, and not limited to areas as heretofore; pulse 152, respirations 34, temperature 101°. In addition to the tonic and stimulating treatment, mustard poultices were applied to thorax and hot baths frequently given. Carbonate of ammonia was given now, gr. ij, every hour, and bisulphate of quinia by suppository, gr. ij, every three hours. In addition to this, the child was given, as were all the others, milk and lime-water, beef-tea, etc., at frequent intervals. We also used in this case the frequent administration of small doses of syr. ipecac to relieve the secretion, which was abundant and tenacious.

April 23. Evening. Pulse was rapid, 160 to 170; temperature 102½°; breathing becoming labored and gasping (fish-like); venous stasis was becoming more marked. Increased the whiskey to about one ounce a day. The attacks of suffocation continued paroxysmally: the jugular veins stood out like cords at times. *Nitrite of amyl* gave immediate relief, but relapse soon followed; it was always followed by free emesis, which seemed to be in itself beneficial. About midnight a severe paroxysm came on, and with it a convulsion, in which the child died. After death the venous engorgement was more marked, and heart-clot had been suspected for some time before. This little patient was the first case whose blood Dr. Formad examined during life. The view of the fluid was photographed; *micrococci were found in great abundance, acting especially on the white corpuscles*. The blood was examined very shortly before the child's death, when the symptoms of heart-clot had been fairly established, and the case declared hopeless.

Unfortunately, no autopsy was permitted in this case.

Case VI.—F. M., aged 2½ years. This case ran a course as did the others, and I will only occupy time with a description of the post-mortem appearances.

Eruption well marked on mucous membrane of buccal cavity, not so on cutaneous surface.

Upon laying thorax open, lungs found to be anæmic, as far as arterial circulation was concerned, but dammed up with venous blood.

Heart. Normal in size and weight.

Right side contained a clot extending along the pulmonary artery for some distance: it was chicken-fat in consistence.

Left side. Normal.

Spleen. Congested; weight four ounces.

Intestines. Along the small intestine could

be seen a few Peyer's patches inflamed, and well outlined against the comparatively normal gut. The mesenteric glands presented a very good example of enlargement and infiltration; they looked like so many peas scattered throughout the mesentery.

Liver. Normal.

Kidneys. Normal.

Brain. Not examined.

Blood. Taken from heart-cavity as soon as it was open showed micrococci in the liquor sanguinis and in the white blood-corpuscles, in abundance; they were not mobile. A number of zoogloæ masses were seen.

Case VII.—C. M., aged 2½ years. The eruption in the throat of this child was very well marked. A few crescentic points appeared in the temples, and the case rapidly developed malignant symptoms.

April 21. Slight grayish suspicious patches of membrane are seated in the throat. The child is hoarse, and there is much bronchitis.

April 22. Pulse rapid; respiration 28; breathing irregular. There is great general venous stasis, the skin dark and mottled.

Dr. Formad examined the blood microscopically, and found it full of micrococci. He took a specimen sample for photography. Prognosis very unfavorable, as the child has fluttering heart and gasping breathing. Hot baths had been used freely with no success, so also salicylic acid, which had been suggested early in the disease.

After consultation with Dr. Formad, the account of which I incorporate in the summary, it was concluded to give at once 3ij of whiskey, and repeat it every hour; milk was continued as the only other food.

April 24. Pulse 144, temperature 101°, respiration 48. Circulation much improved. Venous engorgement relieved; breathing greatly improved. The child continued to improve during the day. At the end of the twenty-four hours it had taken six ounces of whiskey, and yet it showed no effects of alcoholism. At noon the pulse was 140, respiration 36; 6 P.M. pulse 132, respiration 32; 11 P.M. pulse 132, respiration 26, and regular, breathing easy, though somewhat noisy, but not harsh.

April 25. A.M., temperature 98°, pulse 128, respiration 26; P.M., temperature 98°, pulse 108, respiration 24.

April 26. A.M., temperature 98°, pulse 96, respiration 22; P.M., temperature 98°, pulse 104, respiration 24.

The respirations remained regular, and the child continued to improve.

After the examination of the blood on April 30, owing to the relative increase of the white corpuscles, it was decided to give Fowler's solution of arsenic, gr. ij, three times daily. The large doses of whiskey were kept up for three or four days, and gradually diminished.

I give Dr. Formad's reports, which he kindly wrote out for me.

Microscopic examination of the blood in

the above case. (Examination made with a one-sixteenth immersion lens.)

Examination April 22, 1882.—Blood full of micrococci (sphero-bacteria), affecting many of the white blood-corpuscles; also a large quantity of these fungi free and in various forms of grouping, mostly in zooglœa masses. White blood-corpuscles are in increased quantity; precipitation of fibrin excessively marked under the glass.

April 24. (Same case.) Micrococci present, but in diminished quantity; white blood-corpuscles less affected; precipitation of fibrin less marked.

April 26. (Same case.) Micrococci very marked, yet principally in zooglœa masses and free in serum, but not affecting the white corpuscles, although the latter are in increased quantity; fibrin not noticeable.

April 30. (Same case.) Micrococci present; white blood-corpuscles still in excess, but not affected by micrococci. Red blood-corpuscles not readily forming rouleaux, having lost partly their biconcavity.

May 3. (Same case.) Micrococci present in diminished quantity. White blood-corpuscles diminishing in quantity.

May 7. (Same case.) Same as last.

May 18. (Same case.) Still some few micrococci present; blood otherwise appears normal.

Case VIII.—J. W., æt. 8 months. May 13, P.M. Eruption appeared on fifth day. The temperature ran as follows:

May 13. A.M. , P.M. $100\frac{3}{4}^{\circ}$.

May 14. A.M. $101\frac{3}{4}^{\circ}$, P.M. $102\frac{3}{4}^{\circ}$.

May 15. A.M. 101° , P.M. $103\frac{3}{4}^{\circ}$.

May 16. A.M. $101\frac{3}{4}^{\circ}$, P.M. 104° .

May 17. A.M. 101° , P.M. $102\frac{3}{4}^{\circ}$.

May 18. A.M. 102° , P.M. $103\frac{3}{4}^{\circ}$.

May 19. A.M. 100° , P.M. 103° .

May 20. A.M. $103\frac{3}{4}^{\circ}$, P.M. 102° .

May 21. A.M. 105° , death.

May 13. A fever mixture was given during the day. Quinîæ et ferri citratis, gr. ij, every three hours.

May 18. The eruption fading, but leaving a purple stain and mottled appearance of skin. Catarrhal pneumonia or collapse probably exists, as the bronchitis is very extensive, the râles numerous, and subcrepitant. The blood examined under the microscope shows micrococci in the blood-corpuscles, but none free in the field. They are seen in great numbers.

May 19, P.M. For the past two hours the child has been very restless, the breathing rapid and labored, and also spasmodic. No membrane on tonsils or fauces. Heart's action very rapid, venous stasis marked, especially in the jugular veins. Gave hot baths (say Dr. Campbell's notes), and covered him with blankets, with some relief. Increased the whiskey to ʒij every hour.

In the evening gave an emetic. The child at night was breathing easier; friction-sounds heard.

May 20. At times strangulation would seem imminent. The venous engorgement increased, and the child died in convulsions on the morning of the 21st.

The post-mortem examination showed pneumonia and pleurisy with effusion.

The following eight cases were all taken sick at once, and I shall simply give a general statement of them for the purpose of especially calling attention to the case of W. L. :

J. J., aged 4 years; W. L., aged 5 years; E. C., aged 3 years, catarrhal bronchitis; W. W., aged 3 years; C. B., aged 2 years, catarrhal bronchitis; J. W., aged 5 years; J. D., aged 5 years; L. K., aged 5 years.

Of these eight, seven presented severe but nevertheless typical examples of measles, and their blood was carefully examined by Dr. Formad and found normal. The case of W. L., who was taken ill at the same time as the others, showed from the onset a malignant tendency, giving a record such as I have already described. Dr. Formad gave me the following as the result of the examination of the blood in this case, and I had frequent occasion of examining it with him myself. Let me say that as soon as the presence of micrococci was established, the child was placed upon ʒij doses of whiskey every hour, quinîæ et ferri citratis in citric acid, gr. ij, every three hours, friction to the extremities, and warm baths, with milk and beef-tea.

April 22. A few micrococci seen in the field.

April 26. Again noted.

April 30. Micrococci still present; white corpuscles increased, and marked precipitation of fibrin. *None were noted as having penetrated the corpuscles*; those that were found were simply in the serum. This child recovered, though every indication gave a very unfavorable prognosis.

In presenting this detailed report I desire to call especial attention to the following points,—viz., the microscopic examination of the blood and the constant association of micrococci with the general manifestations of malignancy (a condition already well known), and the gradual but positive amelioration of all bad symptoms by treatment which was directed to the micrococci as the *fons et origo* of trouble (this, I believe, for the first time exhibited).

It will be noted that the post-mortem examinations of these cases showed more or less simple pulmonary congestion, and at times simple enlargement of the glands, but usually so circumscribed as to preclude the possibility of its being the immediate,

or even remote, cause of death. Again, the mode of death was peculiar: the fatal signs came on suddenly and with frightful intensity, the gasping breathing, the frantic efforts to obtain air (or really to aerate the blood), the imploring look, with consciousness not impaired, seemingly unduly acute, until the final convulsion or gradual cyanosis brought the end. The turgid veins, the occasional venous engorgement, the feeble pulse, and the fluttering heart pointed unmistakably to but one cause, the gradually forming right-sided heart-clot; and the post-mortem appearances, as these notes show, gave us a large, tough, chicken-fat clot, obstructing the venous circulation, firmly planted in the right heart and its tributaries, which was too often exhibited to raise a question. One of the earliest symptoms of this impending danger was undue rapidity of respiration. The child seemed to be doing well, its eruption irregular, probably incomplete, or dark and mottled, and in blotches, when attention would be called to the great rapidity of respiration with a peculiar gasping inspiration, fish-like in character. The other fatal symptoms would follow rapidly, and within twelve hours the child, despite carbonate of ammonia, warm baths, digitalis, etc., would die of heart-clot. What caused this?

In a short paper which appeared in the *American Journal of the Medical Sciences* for January, 1882, I gave the experience of a number of cases of diphtheria, scarlet fever, and measles, and then attributed the condition to an increase of fibrin due to the rapid tissue-changes and the malignancy of the type of disease, and urged the importance of pushing an alkaline treatment from the start.

The microscope has shown here that something more is associated with this condition.

The moment that symptoms of malignancy—viz., dark eruptions, feebly-defined crescents, delayed and imperfect appearance of the eruption, with feeble circulation, high temperature, and pharyngeal false membrane—appeared, the examination of the blood showed *micrococci* in abundance in the field. They do not simply lie as impediments to the free passage of blood, though they undoubtedly do this, and obstruct its passage in capillaries, but they surround the corpuscles, they enter the white corpuscles, and there develop with

surprising rapidity, and finally cause some of them to rupture, and their contents will cover the field. Still, if they alone clogged the circulation in the capillaries, caused stasis in the lung, and thereby provoked an accumulation in the already enfeebled right heart, with blood having a tendency to coagulate, the cause of heart-clot alone would seem explained.

We find that they develop with activity when the blood-current is retarded; hence we find them spread throughout the heart-clot itself, possibly at times having been here arrested by the obstruction to the flow caused by the lung-congestion known as a frequent complication of these cases, and finally aiding, by a mechanical cause alone, the deposition of fibrin that forms the clot. They do more. They act upon the white blood-corpuscle, destroy it in all probability, or, at least, as one of the cases proves conclusively, prevent its change to red corpuscles, and thus, the oxygen-carriers being either destroyed or reduced in numbers, with none to replace them, the tissues retain their detritus for want of carriers to relieve them, and another factor is added to increase mortality.

Granted, then, that the appearance of *micrococci* is coincident with symptoms of malignancy, we must assert that, whether their association be *post hoc* or *propter hoc*, they must have common cause; our treatment receives an impetus in a new direction.

I asked Dr. Formad what, in his experience, most readily checked the development of *micrococci* in his culture solutions obtained from erysipelas, diphtheria, etc. He answered, *alcohol*. Dr. Campbell at once withdrew carbonate of ammonia and digitalis from the treatment for the future, and gave whiskey. Five children had already died with the symptoms I have just described, and the sixth was exhibiting all the malignant symptoms, together with those which experience had taught us came from commencing heart-clot. The child had rapid gasping breathing, was becoming cyanosed, its heart was tumultuous, and the rapid pulse was growing weaker. The instructions were to give *three ounces of whiskey within the next twelve hours*, in frequent and small doses. The treatment was carefully carried out, and the child was saved. In this child *micrococci* were found in abundance in the blood, but none had penetrated the corpuscles, and for a long

time the preponderance of white blood-corpuscles was noted, which continued until gradually the blood became normal under the use of *arsenic*.

Again, let me illustrate another point. In one ward there were six cases at the height of eruption. I carefully examined, with Drs. Campbell and Markoe, each case. One case was found to be of a malignant type. The child's right cheek was hardened and inflamed, and the mucous membrane showed that glistening surface so manifest in *cancrum oris*. The breath was fetid, there were cerebral symptoms, and a grayish exudation lined the fauces. We wished to test the microscope, so, without reference to any particular case, we requested Dr. Formad to examine the blood of all. In five the blood showed no *micrococci*, in one a large mass appeared in the field upon the first examination, and this one was the malignant case. This child was placed at once upon large doses of whiskey, and it was also given, in tonic doses, *quininæ et ferri citratis* and citric acid.

The *vegetable* acids have also this remarkable effect of checking the development of *micrococci* in culture solutions, especially acetic acid, but the mineral acids, also carbolic acid, it is said, have no such action.

The *bichloride of mercury* also possesses this quality to a very marked degree.

Now let me, for a moment, review this subject in the light of treatment, which to us is certainly of greatest importance. We may look at present upon the *micrococcus* as associated with the malignant symptoms of all complications known as "blood-poisoning." It is found in erysipelas, in puerperal septicæmia, in diphtheria, and in malignant measles. Experience has already taught us that alcohol, the vegetable acids, calomel, or corrosive sublimate, are the drugs *per se* in septicæmia.

The action of alcohol and calomel is too well authenticated in puerperal septicæmia to doubt their efficacy.

We know of late how surprising a result will often attend the use of alcohol and *corrosive sublimate* in malignant diphtheria, and also the value of vegetable acids, especially lemon-juice and claret, in this dreaded disease.

My cases simply illustrate one part of the subject. In this recital I do not allude to the other death-producing complications

which are so universal. Children with measles will die of cerebral complications, of pneumonia, of enteritis, and enterocolitis: with these we have nothing to do at present. Their treatment will, of course, depend upon the lesions: quinine, opium, hot baths, poultices, will all take part.

I have simply brought forward the subject of "blood-poisoning" for your consideration, and, as these remarks are based upon the careful study of but one epidemic, they cannot be submitted as conclusive, but simply as illustrative of what may at some future time be accomplished by studying, not merely the bacteria anatomically and physiologically, but by experimentation with bactericides as antidotal in their action in diseases they may cause or complicate.

The conclusions which seem warranted by the statements of this paper, and, by observations made in other cases in the hospital, are as follows:

The *micrococcus* is found in the contents of pustules and vesicles, and also in the blood taken from the measles-papule in ordinarily mild cases, without its being present in the blood taken from the punctured finger. In severe cases, called malignant in this paper, owing to the rapid appearance of morbid symptoms, the blood shows early in the attack numerous patches of *micrococcus* in the field.

In cases of rapid sthenic disease with high temperature and great tissue-change, the evidences of large quantities of fibrin with a tendency to coagulation are manifest. The rapid production of *micrococci* soon gives the mechanical impediment, and if stasis takes place from any other obstruction to the circulation, clots rapidly form.

The non-appearance of clots in malignant fevers attended with fluid blood, such as low forms of typhus, diphtheria, etc., is simply due to the fact that rapid tissue-changes have resulted in decomposition, instead of into fibrin-forming substances,—no fibrin is formed, hence no clots,—but the *micrococci* are present all the same. These cases are held by some to be the malignant ones, but I think the *foudroyante* character of the others, just mentioned, entitles them to be placed in the same category.

But the *micrococcus*, if left unheeded, may attack the white corpuscle as distinctly seen under the microscope, and

destroy its contents. The red cells also change in appearance, and finally probably become, to all intents and purposes, useless in the economy. When such a condition is seen by the microscope and found extensive, a fatal prognosis can be given, despite the most active treatment.

In cases where the white blood-cells are as yet unaffected, treatment, when active, will be followed by good results, provided the other complications, as visceral inflammation, etc., are not in themselves excessive.

Alcohol (whiskey in our cases) seems in some way, when given in large amounts, to check the progress of the marauders, to arrest the process of destruction, and, if needful, can be associated with quinine and iron in small repeated doses, digitalis perhaps, and frictions, baths and poultices, etc. As we have seen, the symptoms presented are contemporary with the changes going on within the blood; they may, *in lieu* of a careful microscopic examination of the blood, be taken as a gauge for treatment; knowing what can and will take place, early active treatment will give the patient some chance for the future.

THE PATHOGENESIS OF SECONDARY TUMORS.

BY HENRY WILE, A.B., M.D.,
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(Continued from page 737.)

CHAPTER II.

EXPERIMENTS WITH TUMOR JUICES.

THE pathogenesis of tumors in the early history of pathology found expression in views which are far different from those generally held at the present time. One of these views must claim our consideration, as it is still maintained by such high authorities as Paget and Billroth. This view is that there exists in the system a specific virus upon which the formation of malignant tumors depends. It is also maintained by some that this virus resides in the juices of the tumor, and that secondary growths are likewise formed by infection from the blood, contaminated by the juices of the primary tumor.

As far as the medical profession at large is concerned, this idea can be regarded as the one generally prevalent at the present

time. (I will refer to this view again in the chapter on Metastasis.)

Peyrille,* Dupuytren, Valentin, Vogel, and Billroth experimented with tumor juices, and failed to reproduce a tumor by the injection of these juices into the lower animals.

On the contrary, Lebert and Weyss,† Langenbeck,‡ Eiselt,§ C. O. Weber,|| Föllin and Lebert,¶ claim to have succeeded in producing cancerous nodes in different organs of animals by injecting cancer juice into their circulation.

To ascertain whether there *is* such a specific virus in the juices, I undertook a series of twelve experiments, making injections of tumor juices into different parts of the animals.

The animals were kept under observation for one year, and careful autopsies revealed no trace or effect of the injected juices. The juices were taken from hard and soft cancers, and also from sarcomas. All the experiments were negative, the juices injected proving generally an irritant, which gave rise to an inflammatory process followed by suppuration.

It must be borne in mind that the juices before being injected were all examined, and any particles were carefully excluded.

A microscopical examination of the juices showed the following: numerous compound granule-cells, clusters of fatty degenerated epithelial cells, blood, and a large amount of molecular *débris*, all suspended in a transparent, almost colorless liquid.

These experiments, although by no means conclusive, tend to show that there is no soluble virus, or, in other words, no specific soluble virus, in the juices capable of producing tumors, and that the infectious properties, if any exist, must be sought for in other ingredients of the tumor.

In conclusion, I might add that by inference from the results of my experiments and the numerous experiments of others, I am forced to agree with Formad,** who believes that those experimenters who succeeded in producing tumors by inocula-

* Quoted after Zahn, *Congrès International Médical*, 1877, Geneva, 1878.

† Virchow's *Archiv*, xl. pp. 142-532.

‡ Schmidt's *Jahrbücher*, vol. xxv., 1870, p. 99.

§ Prager *Viertelj.*, Bd. 76, 1862, p. 53.

|| *Chirurg. Erfahrungen und Untersuch.* Berlin, 1859, p.

259. ¶ *Traité Pratique des Maladies Cancéreuses*. Paris, 1851, p. 136.

** *Proceedings of Philadelphia Pathological Society*, Oct. 27, 1881.

tion with tumor juices dealt with juices that contained tumor particles composed of living cells; in which case the tumor was not a result of infection, but of transplantation.

For the literature and a detailed analysis of this interesting question, see the exhaustive monograph, "The Etiology of Tumors," by Dr. H. F. Formad (*loc. cit.*), and the discussion thereon, *Proceed. Path. Soc.*, October 27, 1881.

CHAPTER III.

TRANSPLANTATION OF TUMOR PARTICLES.

Are tumors due to specific cell life, differing in principles of growth and development from that of normal tissues?

To answer this question a series of twenty-eight experiments, consisting of the transplantation of tumor particles, was performed, and only those experiments were taken into consideration in which specimens examined microscopically showed no retrograde change.

The transplantations of these tumor particles were made at intervals ranging between ten minutes and three hours after the removal of the tumor from the living human being. It was my object to transplant the particles while the cells composing them still possessed vital properties. Thus, should a particle continue to exist without being absorbed, notwithstanding the change in its environment, it would prove conclusively that the principles of growth therein manifested differed in no wise from those which govern the growth of the epithelial cells composing a skin-graft, or it would show that the mode of development differed in no respect from that of transplanted normal tissue.

In the tables it will be seen that twenty-eight transplantations were performed: five with scirrhus cancer, seven with encephaloid, four simple epithelioma, four adenoma, one condyloma, seven sarcoma. The transplantations were made in the following positions: sixteen times subcutaneously, three into muscular tissue, one into anterior chamber of eye, two into jugular vein, one into mammary gland. Of all these experiments only two showed positive results; all the rest were negative. Of the two positive experiments, I will now give some details (both being lung experiments). In the first of these, the embolus, after fifty-five days, was found in the lung, and measurements showed it to

have increased to about three times its original size.

Microscopical examination reveals the following: the embolus is seen to be surrounded by a dense fibrous capsule, which includes, besides the cancer embolus, some organized blood-clot. The capsule referred to is in several places in direct union with the intima of the blood-vessels, and in other places it is so thin that the cancer embolus is in immediate contact with the intima. It appears, in fact, that the cancer structure began to proliferate into the structure of the wall of the blood-vessel, although a complete perforation of the wall was not observed.

The embolus, as mentioned before, is partly composed of the original cancer fragment, which is seen in a most active state of proliferation, and partly of the organized blood-clot. This latter shows slight retrograde change in some portions, while the cancer embolus proper does not show the slightest trace of retrograde change. It can also be distinctly seen that the cancer cylinders, which are seen in such perfect and typical condition, penetrate also into the spaces between the connective tissue of the organized blood-clot.

In the second of these positive experiments, of thirty-five days' duration, the transplanted fragment was taken from a mass of cancer of cervix uteri removed by Dr. William Goodell, at the University Hospital clinic. During the transportation of the fragment from the clinic room to the pathological laboratory, the fragment was kept warm, so as to preserve better the conditions of life. A minute fragment of this tumor was introduced into the jugular vein of a dog by the method described. After thirty-five days it was found in the lung, and represented four times the original bulk. Under low magnifying power the embolus is seen lodged in the lumen of one of the ramifications of the pulmonary artery, and in some places appears in close union with the intima of the blood-vessel. In other places the embolus is somewhat retracted from it. The embolus is incompletely surrounded by a fibrous capsule, and is growing independently as a node, not involving or developing from the surrounding lung-structure, being dependent upon the latter only for a supply of nutrition. It does not present any retrograde change, as shown by the good and uniform staining of the cells composing it.

In the neighborhood are seen a few beautiful bronchioles, and all around the tissue is perfectly normal, although slightly compressed; examining the specimen with higher power, the details of the foregoing appearances were elucidated. The wall of the artery which contains the embolus was seen intact, and in places where the union between it and the capsule of the embolus was effected, the union was so intimate that it was impossible to see where the capsule ended and where the intima of the blood-vessel wall commenced. This was rendered more difficult by the circumstance that the intima had undergone decided thickening, and showed evidences of inflammatory changes, which had accomplished the union. The capsule of the embolus is composed of a dense, fibrous, vascular connective tissue, apparently intermingled with smooth muscular tissue. As far as the embolus proper is concerned, it represents typically the tumor whence it was taken. It will be remembered that it was a cancer in uterine tissue, and hence the presence of some muscular tissue which forms a part of the bulk of the embolus is easily explained. Between the alveoli of the vascular connective tissue, which are filled with typical cancer cylinders, are seen some fat vesicles. All the elements mentioned as forming the component parts of the embolus show active growth. This is evident from the cellular proliferation, from the total absence of any retrograde changes, and eminently from the increase in bulk.

Thus, all the transplantations (twenty-six) were failures, except those to the lungs. These failures I attribute to inflammatory processes destructive to the graft, to the setting up of a chronic suppuration, to impaired cell life, due to delay before transplantation, to mechanical disturbance of the graft, due to restlessness of the animal, rubbing against objects, licking the wound, etc.

There can be no doubt that the large size of the graft in many of the experiments had some negative influence upon the result. It is well known that, in skin-grafting, small grafts give better results than large ones. It may be the same in the case of tumor-grafts. Yet any number of negative results does not disprove one positive result.

Nowinsky,* of St. Petersburg, made a series of experiments similar to mine, in

which he used fragments of a medullary cancer from nose of dog; twenty-seven transplantations on inflamed skin were all negative, and out of fifteen transplantations on normal skin two were positive. In one of these positive experiments Nowinsky introduced subcutaneously on the back of a dog a fragment of cancer. After fourteen days it reached the size of a pea, and in eight months the size of a walnut. At the end of ninth month the dog was killed, and the tumor excised measured three and a half centimetres in diameter.

The second experiment was of the same character. After one and a half months the dog died, and in the cicatrix of the wound a nodule the size of a pea was found. Both these tumors retained the structure of the primary growth.

Nowinsky draws the conclusion that under favorable conditions pieces of cancer introduced under the skin grow. Klenké† and Goujon‡ also succeeded in inoculating animals with cancer. Thus the possibility of successful transplantation of morbid growths is experimentally established.

Cohnheim§ properly remarks that it is not remarkable that living epithelial masses from carcinomata continue to grow after transplantation. The question, however, arises whether these transplanted tumor particles grow by virtue of any specific properties residing in the cell or whether the transplanted cell-masses grow on the principle of the grafts. The latter proposition must be the correct one, as the transplanted particles grew centrally in the form of a node, while not a trace of the tumor structure or any tendency towards it was found in the surrounding tissue. In other words, there was no infection of the surrounding tissues. This was also the case with transplanted normal tissue, as will be shown in the succeeding chapter. It developed in its new and foreign position just in the same manner as it does in its native seat. This fact is well demonstrated by my two successful tumor transplantations, and also by the experiments of Nowinsky, in which the transplanted tumor particles grew in the form of nodes.

It is perfectly conclusive to my mind that no specific infection occurs in the so-called secondary malignant growths. They grow, as do normal tissues, from a central

* Haser's Archiv, 1843, vol. iv.

† Etude sur quelques points, etc. Thèse de Paris, 1866.

‡ Cohnheim's Allgemeine Pathologie, p. 633.

* Med. Centralblatt, 45, 1876.

point, as in a skin-graft, without transformation or infection of the surrounding tissue. Tumors act deleteriously upon the organism by encroaching with their secondary deposit, which are usually of considerable bulk, and tax the nutrition of the economy to the last degree.

Thus I have proved that transplantation with living tumor particles succeeds. That the tumor particle not only retains its vitality, but also its proliferating power. That it grows and decidedly increases in size. Furthermore, I have demonstrated the exact mode of this growth and development,—namely, that the embolus *grows in itself by virtue of ordinary cell-vitality, and not through the agency of any specific infectious properties.*

Again, it is evident from my preparations that the cancerous emboli did not make any “specific impression” upon, or implicate the surrounding tissues into, the cancerous growth. Thus the surrounding normal tissue did not furnish any material for the formation of the new growth (except furnishing the blood-supply), but played an entirely passive part, being simply pushed aside and displaced by the cancerous growth.

I will also show farther on that the growth of normal tissue emboli is accomplished in precisely the same manner, and this serves as a confirmatory proof that metastatic malignant tumors develop in exactly the same manner as particles of normal tissue, and consequently develop *by virtue of ordinary cell life, and not by virtue of any specific properties residing in the cells.*

(To be continued.)

THE RESULT OF OPERATION IN THREE CASES OF APPARENTLY HOPELESS GLAUCOMA.

*Read before the Philadelphia County Medical Society,
April 12, 1882,*

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IT is not within the scope of this paper to discuss the general subject of glaucoma. The intention is to recite briefly some points in the clinical history and to show the beneficial results of operative interference in a small group of cases usually regarded as beyond the reach of surgical aid. Each of these cases, moreover, pre-

sents features of great interest, since they shed some light upon the vexed question of the etiology of this serious disease, and are therefore regarded as of sufficient importance to place upon record. No subject in the domain of ophthalmology has awakened a greater interest or been subjected to a closer scrutiny than glaucoma. The untiring diligence made manifest in the now extensive literature of the subject is already bearing fruit in the form of seemingly truer views and a better understanding of the real nature of the disease. An exacting inquiry, however, still discovers many points of disagreement between the clinical manifestations of glaucoma and the somewhat conflicting theories entertained regarding its etiology. While much, therefore, remains to be done in the way of accurate clinical and histological observation before a uniform understanding regarding its essential character will be reached, nevertheless the later investigations make it safe to predict that the symptoms which have heretofore characterized glaucoma—as the diminished range of accommodation, increased tension of the ball, contracted field and diminished sharpness of vision, steamy cornea, etc.—will soon be regarded as symptomatic of a variety of conditions affecting the choroidal tract, or interference with the proper excretion of the intraocular fluids.

The following cases are presented in the belief that they will be of some value, not only as a clinical study, but as shedding some light upon the source of the glaucomatous symptoms and the essential nature of the disease. A careful analysis will show that, while differing widely in their early history, the same group of symptoms was ultimately reached in each case, and the same treatment demanded for their relief.

Case I.—Mrs. T., æt. 49, consulted me, in November, 1878, regarding the advisability of an operation on her eyes. Her sight had been failing for many years, first in the left eye, and for about four or five years in the right also. She had already been twice advised—first in 1875, and again in 1876—that she had glaucoma, and that an operation should be performed. She declined, however, because such slight hope of benefit was held out to her. Her vision, however, had steadily grown worse. The left was now totally blind, and the right so defective that she could only with difficulty get about without an attendant. Examination showed O. S.

diverging widely; the anterior penetrating vessels were dilated and tortuous; both balls were stony hard; anterior chamber shallow; media transparent. The ophthalmoscope showed the characteristic cupping of the nerve, as seen in glaucoma, the scleral ring being emmetropic, while the lamina cribrosa could be seen only with -4.5 D. in the right and -6 D. in the left eye. Nerves green in both, and in the left entirely devoid of capillarity. With the right eye she could still see some of the letters in LXX of Snellen's test-letters, but only after carefully fixing her eye. The least movement of the card would make a long search for the letters necessary before they could be found and read again. The field of the right eye was limited to 25° to the temple side, 20° above, 25° to nasal side, and practically limited to the horizontal line below. This blotting out of the lower field and the contraction in all directions accounted for her extreme difficulty in finding her way about without assistance. The patient was nervous, extremely distrustful of any advice, and complained of constant headache, with pain and a sense of fulness in the eyeballs. She was advised that nothing but an iridectomy promised any relief from her pain or held out any hope of saving her remaining vision; that it might not do this. However, as her sight was steadily failing, and would soon be entirely lost, she seemed justified in taking the risks attending the operation, since it was possible that good might result from it. Blindness was sure to result if nothing was done.

A broad iridectomy was made upwards in O. D., under ether, without accident, and a week later the same on the left eye, not with any hope of restoring the sight, but for the relief of the pain. The recovery was complete and rapid in O. D., but in O. S. the wound healed with a cystoid cicatrix, which has remained up to the present time, draining constantly the anterior chamber, but giving no serious trouble.

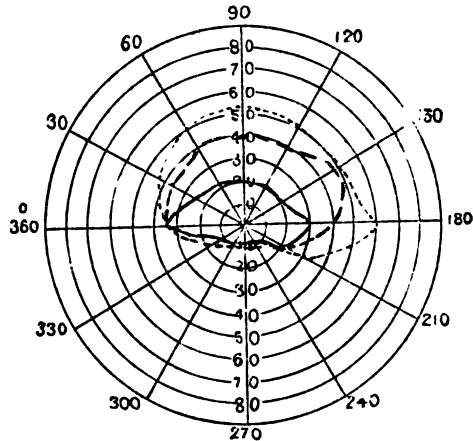
The operation on the right eye was performed on the 11th of November, at which time the field of vision was recorded as represented on the solid black line in Fig. 1. On the 3d of December following, the field was as shown in the broken line. The tension was noted as normal in O. D.; below the normal in O. S. Careful examination showed that in O. D. a short stub of the iris had not been cut away at the base of the coloboma, and that at one point a narrow tag was adherent to the cornea. On the 6th of December the field remained the same as above recorded

and central. $V = \frac{20}{LXX}$ readily. The eyes

were white, and she was free from pain. The patient expressed herself greatly delighted with the improvement in V and freedom from pain, and regretted that she had not submitted to the operation in 1875, when first advised. The ophthalmoscope now revealed a high

grade of astigmatism, which had not existed before the operation, and a $+1\frac{1}{4}$ cyl. ax., at right angles to the axis of the coloboma, greatly improved the clearness of her vision;

Fig. 1.



but she could see no smaller letters. She returned in January, 1879, complaining of a mist before her eyes and temple pain on right side. $V = \frac{20}{LXX}$? $T + 1$; but there was no change in the field of vision. She was ordered a solution of eserine, to be used at home. The next visit was made the following March 7, at which time there was no notable change in the sharpness of vision or the extent of the field. May 16, 1879, she returned, complaining that her sight was distinctly worse, that her neuralgic pains had returned. The tension was noted as $+1.5$, and the field was found somewhat contracted, as shown in the interrupted line in Fig. 1. No note was made of the acuity of vision. The eserine was resumed, and she was advised to return very soon if the symptoms were not relieved. On May 27 the tension of the ball had greatly increased, and V had sunk to $\frac{20}{CC}$.

On June 6 a broad sclerotomy was done, including in it the coloboma left from the iridectomy. The incision was made as nearly as possible in the angle of the anterior chamber, and included half of the circumference of the cornea, leaving only a narrow bridge above, and the knife—a narrow Graefe's cataract knife—was carried almost through this: so that the stub of the iris adhering to the cornea and closing the angle of the anterior chamber at this point was cut across, and only a thin layer of the sclerotic and the overlying conjunctiva remained. The iris did not prolapse.

The eye recovered from the operation without any reaction, and on June 19 was entirely quiet. The field had widened in all directions to its dimensions as shown in the dotted

line, but V remained at $\frac{20}{CC}$ on July 11, with $+1\frac{1}{2}$ s $\subset +1\frac{1}{2}$ c., axis 60° , $V = \frac{3}{8}$, and then she could see indistinctly in the lower field.

The patient has been seen from time to time, her last visit being for an acute conjunctival catarrh in July, 1881, at which time no material change had taken place in her condition as described in July, 1879.

In this case was presented total blindness in the left eye from absolute glaucoma, the right rapidly approaching the same condition, no inflammatory symptoms having at any time been present. There was in both eyes a deep glaucomatous cup, and both nerves were already becoming atrophic. Nevertheless, in spite of these unpromising conditions, the sight in the right eye was not only preserved at the point where it was found, but was greatly improved, and, moreover, the patient was relieved from pain. The previous history of this case and the well-known course of the disease make it nearly certain that by the operative interference this lady has been spared from total blindness for at least three years. The second operation was probably rendered necessary by the adherent stub of the iris to the cornea at the angle of the anterior chamber; and this incidentally teaches not only the importance of such adhesions, but also the great value of sclerotomy in glaucoma.

Case II. (Ann W., æt. 50).—Sympathetic irritation; secondary glaucoma; enucleation of O. S.; iridectomy on O. D.

January 18, 1881, I was requested to see a blind woman residing near the Episcopal Hospital, who was represented as suffering great pain. She was found in a dark room, complaining bitterly of her suffering, which had lasted for many weeks, with only short intervals of partial relief. The *left* ball was shrunken, but red, the cornea opaque, and the ciliary region extremely tender to the touch. The right was also red, cornea steamy, shallow anterior chamber, pupil dilated medium, and iris apparently adherent to anterior capsule of lens, ball stony hard, and the superior ciliary region so tender that she shrank back in terror at any efforts to determine the tension of the eye. The vision was merest quantitative perception of light. The following history was elicited:

The left eye had been lost from inflammation in early life. It had been subject to occasional attacks of redness, which she ascribed to "taking cold in it." These attacks had been very frequent during the past summer and winter, and the right eye also became weak, and dreaded the light. These had culminated in the present attack.

She was willing to submit to any treatment promising relief, and was accordingly admitted to the Episcopal Hospital, placed in bed, a purge administered, and a solution of sulphate of eserine (gr. ij-f $\frac{3}{4}$) directed to be used in O. D. every four hours. On the third day (January 21) the redness and pain had greatly diminished (T +2), and the left eye was enucleated. On the 25th of February the right eye had so far improved that the field of vision could be taken with lighted candles, showing almost entire absence of the lower nasal field, and a nearly uniform contraction elsewhere to from 8'' to 10'' at 1'. The tension was still above the normal, cornea less steamy, and a dim view of the fundus could be had. Lens was apparently becoming cataractous. Could not count fingers or see her way about the ward. No further improvement following the use of the eserine solution, and the tension of the ball remaining above the normal, I did a broad iridectomy upwards about March 1, 1881. No reaction followed the operation, but all pain was at once relieved. In about two weeks she was discharged from the hospital entirely well, and able to read No. LXX of Snellen's test-types at 5'. Some months later I saw this patient going about the streets in the crowded centre of the city, without an attendant, and evidently with sufficient sight to enable her to do so safely.

Case III.—Secondary glaucoma of both eyes following chronic iritis; O. D., quantitative perception of light; O. S., $\frac{2}{CC}$; Sclerotomy O. D.; Iridectomy O. S.

Mrs. D., æt. 46, consulted me on August 17, 1881, concerning her failing sight, and gave the following history:

Eyes had always been regarded as strong, and, although a victim to occasional attacks of sick-headache, had had no symptoms of eye-trouble until March, 1880, when she discovered quite accidentally that vision was less in O. D. than in O. S. The vision in O. D. failed progressively until July, 1880, when she was attacked by severe right hemiplegia, which lasted eight days, part of the time so severe as entirely to prevent sleep. The eye was inflamed, and could not bear the light: so she was kept in a darkened room. She noticed no great immediate diminution of the vision during or following the attack; but the failure gradually progressed, until now there is only quantitative perception of light. O. S. seemed well until April, 1881, about one year after the commencing failure of sight in O. D. She then noticed that she could no longer see the time on a distant clock, visible from her window, as before. Vision had progressively failed in this, until now only the large letter CC of Snellen's test-type could in strong light be made out at 2'.

At present: O. D., occasional shoots of pain in the eyeball and periorbital neuralgia; T

+2; cornea rough and steamy, and sensibility very markedly diminished; iris fixed; pupil small medium, and apparently attached by an annular synechia to the lens capsule; anterior chamber shallow; no ophthalmoscopic reflex from fundus; ciliary injection marked, the anterior perforating vessels being dilated and tortuous; with candles, field temporal only. O. S., cornea rough and steamy, with small central opacity; iris discolored; posterior synechia far advanced and nearly annular; no pouches in iris; T +1; sensibility of the cornea is slightly diminished, and field is good in all directions. $V = \frac{2}{CC}$. Menstrual function had been normally performed until the last period, which was missed, and she was now suffering from alternating flushes of heat and perspiration. She was advised of the serious condition of her eyes, and that only an operation promised any permanent relief from her pain or the retention of the small amount of vision still remaining; that the right eye was probably hopelessly blind. Iodide and bromide of potassium were prescribed internally, and the eserine solution as a tentative measure locally. This treatment was continued from the 17th of August to the 31st, with no change in her condition other than a diminution of the steaminess of the right cornea and a continued diminution of the sight in the left. On this date I did first on the left eye a broad upward iridectomy, under ether, using the bent keratome, iris forceps, and spring scissors. The iritic adhesions to the anterior capsule gave way readily, the aqueous escaped with great energy as though from great tension, and the cutting of the iris, which was done far back, was followed by profuse hemorrhage, which again and again filled the anterior chamber. The eye was at last bandaged with the anterior chamber filled with blood, which, however, in the subsequent progress of the case, was slowly but not entirely removed. At the same sitting a free and large sclerotomy was made in O. D. with a narrow-bladed Graefe's cataract-knife. The puncture was made 2 mm. back from the outer corneal limbus, 2 mm. above the horizontal meridian, while the counter-puncture was made at a corresponding point at the inner limbus, 2 mm. below the horizontal meridian. The knife was carried upwards, skirting the angle of the anterior chamber. The iris lapped over the knife, but with great care and a gentle rotary motion the incision was completed without wounding it. The upper part of the incision was carried almost through the sclerotic, so that only a paper-like bridge and the overlying conjunctiva were allowed to remain. The iris showed no tendency to prolapse.

There was no reaction following the operation in O. D. In O. S. there was some puffiness of the lids and temple pain for a few

days, but on the whole she was more comfortable after the operation than for many months before. The recovery was rapid and satisfactory. On the 29th of September, twenty-four days after the operation, Mrs. D. visited the office, when the following note was made: O. D., Tn. O. S., T —; O. D., V = $\frac{20}{CXXXVI}$; O. S., quantitative perception of light; remains of blood-clot in the pupil. A month later (October 14) V in O. D. $\frac{2}{8}$; O. S., no improvement. Since October there has been some tendency to renewed attacks of iritis, the left passing through a moderately severe acute exacerbation. During this attack atropia solution was instilled, with resulting marked and rapid improvement of all the symptoms. Iodide of potassium and the bichloride of mercury have been used, with long intervals of intermission. On December 28, V in O. D. was $\frac{2}{8}$, Tn, no limitation of field, cornea clear, annular synechia, from which the iris was threatening in places to separate itself. The anterior capsule in the remaining pupillary space was grayish white, and no distinct image of the fundus could be had. In O. S., could not count fingers; T —. Sensibility of cornea not diminished on either side.

Her last visit was made on the 8th of the present month, when the following note was made: O. D., V $\frac{2}{8}$; T + (sl). O. S., Tn.; V $\frac{1}{18}$. Eyes are white, and she has had no pain since her visit on January 10 until the present week. She has now some frontal pain again, but the vision is good, except slight blurring at times. I was now for the first time able to study the eye-ground with the ophthalmoscope. Although the image was a blurred one, it was nevertheless sufficient to reveal a deep glaucomatous cup.

It will be observed that, while these three cases differ widely in their origin, they present many features in common in their later stages. The *first* showed no history of inflammation; the *second* seemed to find its origin in sympathetic irritation passing over into, possibly, iridocyclitis; the *third* was doubtless a case of chronic rheumatic iritis.

They each, however, came with loss of sight, hard eyeballs, contracted field, and pain; the last two with steamy, punctated corneæ and adherent irides. The pain in each case was relieved by eserine, and all of them found relief from opening the angle of the anterior chamber.

Without the operation each of these must have suffered a total loss of sight. Indeed, in Cases II. and III. such was already practically the case, since in each the eye benefited by the operation had only quantitative perception of light.

NOTE ON SCHUYLKILL WATER.

*Read before the Philadelphia County Medical Society,
June 14, 1882,*

BY HENRY LEFFMANN, M.D.

GENTLEMEN,—My excuse for detaining you this evening is the fact that during the past week or so considerable excitement has been developed in this city by newspaper articles in reference to the quality of our drinking-water. I have but little doubt that much of this excitement has been brought about simply by the desire of the newspaper press to create a sensation. Special attention has been called to a sewer which empties into the Schuylkill at Girard Avenue bridge, and it has been boldly asserted that this and other contaminations have so polluted the water that an unusually large number of cases of diarrhoea and allied diseases have appeared in the city during this spring. I have watched the composition and quality of the Philadelphia water-supply for some years, and I have always considered it wholesome water. Observations made at several times during the past winter and spring, and also within the last few days, have not given me any reason to change this opinion. The Girard Bridge sewer is not a new contamination. It is on the bed of a natural water-course, and for many years has been carrying more or less drainage into the Schuylkill. I first examined it chemically in 1872, and it has not materially changed since then. I yesterday visited it, and, entering a short distance, took a sample of water from it. I submit a portion of this water for examination by the members, and also the distillate obtained from it. My examinations lead to the conclusion that it is not a very foul water. The contamination is principally from brewers' refuse. The quantity of water discharged is quite small in comparison to the volume of the river; the sides of the sewer are not dirty, and the mud at the bottom has not the offensive character seen in true sewers. The examination of the distillate shows that the water contains some stale beer, or, at least, similar materials derived from the malt grains, which are seen in considerable amount along the floor of the sewer. I am of the opinion that the contamination which this sewer produces is not sufficient to justify the public alarm which some persons have tried to arouse. While it is ad-

visible to cut off all contamination of the Schuylkill within the city limits, it must be remembered that the streams which flow into the river are feeders to it, and if we shut them off on slight suspicion we will suffer from scant supply, which will be a serious evil. I appreciate the importance of the intercepting sewers, but the real necessity to the water-supply of Philadelphia is a good storage and filtering reservoir, sufficient for many days' supply. Experience has shown that the quality of water may be materially improved by filtration, and the Schuylkill River is liable to two troublesome conditions,—scant supply and turbid freshets. A storage reservoir will get rid of both of these. When the water is clear and abundant, as it is at times, during all seasons, the reservoir should be filled, and such clear water can be depended on for supply during the periods of drought and turbidity.

OLD DISLOCATION OF FEMUR REDUCED BY MANIPULATION.—At the York County Hospital, England, a farm-laborer who had experienced a dislocation of the femur, backwards, was admitted eight weeks after the accident. On the day after admission, Mr. Jalland reduced the dislocation by manipulation, there being no adhesions. The patient was fully etherized. He was afterwards put in bed, with a long lateral splint on the limb, and at the end of a week a plaster bandage was applied, and he was allowed to get up on crutches. He was discharged three weeks later, with a perfectly movable joint.—*British Medical Journal*, May 20.

NEW ANTIDOTE FOR STRYCHNIA.—In the Proceedings of the Royal Society (xxxvi. 162) there is a communication from Messrs. Greville, Williams, and Waters in regard to a new organic base, first prepared by Mr. Williams by distilling cinchonine with caustic potassa. This new agent, which has been named "blutidine," is a cardiac tonic, and reduces the inhibitory power of the vagus, and, from experiments upon frogs, it has been shown to be an antidote to strychnia-poisoning. Experiments upon the higher animals are probably now in progress.

LOBELIA-POISONING—A CURIOUS CAUSE OF DEATH.—A man of intemperate habits in England took a powder containing lobelia, capsicum, etc., by advice of an irregular practitioner. He died without vomiting. At the autopsy there was found a rent in the stomach, through which the contents had escaped into the peritoneal cavity. In a stomach weakened by disease, an emetic like lobelia may, therefore, produce a fatal rupture.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 12, 1882.

EDITORIAL.

WASTED SYMPATHIES.

NO better illustration could be given of the unfitness of sentimentalists to deal with criminals and matters of criminal law than the well-known sensational essay of Charles Dickens, in which he condemns the penitentiary in unmeasured terms, and expresses in the warmest manner his sympathy for the poor German condemned to solitary confinement, who, to while away the weary hours and save himself from insanity, undertook the task of painting his cell-walls with the humblest materials. This frescoed cell has, since the publication of the "American Notes," been one of the sights of the Eastern Penitentiary, and Charles Langenheimer, now generally called Dickens's Dutchman, has been a hero, and the recipient of numberless "tips" and unlimited sympathy. Some time or other it has been noticed that visitors who have come with minds prepared to appreciate all the horrors of the Pennsylvania system, as it has been called, have not been unpleasantly impressed to the same degree that the popular author was, and there are good grounds for believing that the prisoner himself was quite unconscious of deserving the profound commiseration that had been bestowed upon him. Though not quite as free as William Tell, he had comfortable quarters, good clothing, plenty of food, free medical attendance; evidently he was, on the whole, better cared for than he would have been outside, and all without the necessity of the daily struggle for existence with the overworked and underfed world.

That the subject appreciated these advan-

tages is shown by the fact that recently, his term having expired, he stepped out a free man, with a new suit of clothes on, and with some money in his pocket, but within a few days his new existence palled upon him, and, becoming homesick, he committed a larceny in order to get back to his old quarters. The venerable jail-bird, now seventy-nine years of age, has been pensioned for another year, although the records show that he has already passed forty-two years in prison. When brought before Judge Elcock, the prisoner expressed his desire to get back to the Eastern Penitentiary, because he feels more at home there. His request being granted, he thanked the judge for "the favor," and said that he would like to go as soon as the commitment could be made out.

The novelist evidently made the mistake, too often committed by warm-hearted but inexperienced persons, of supposing that individuals of the criminal class are actuated by precisely the same feelings and emotions that are experienced by a higher type of humanity. The philanthropist, himself governed by a nice sense of honor, is by this fact incapacitated from judging the mental operations of those with whom immorality and deceit are natural instincts, inherited from vicious parents and strengthened by a career of crime. It is in dealing with such cases that psychological and forensic law are at direct variance; such an individual certainly cannot be said to be sane in the sense that he is governed by motives that actuate the majority of right-thinking men, and yet the interests of society forbid that the criminal shall be shielded from the punishment which his crime calls for, and to which he has consciously exposed himself.

NEW METHOD OF DETECTING STONE IN THE BLADDER.—In the *Lancet* for July 1, Mr. Davidson states that the attachment of a rubber auditory tube to the sound, connecting it with the ear of the surgeon, greatly facilitates the discovery of calculi.

CORRESPONDENCE.

LONDON LETTER.

THE General Medical Council is sitting, talking, discussing, and coming to conclusions; the last by far the hardest part of the business. Dr. Da Costa went the other day to watch the proceedings: it is to be hoped he was favorably impressed with them. The President referred in his opening address to the report of their visitors to the various licensing boards throughout the kingdom, whose fusion into one examining body has long been agitated. At present we have no less than nineteen bodies which grant licenses to practise. There are the Universities of Great Britain:

London (a good many yearly examining).
Cambridge (a few).
Oxford (almost *nil*).
Durham (young, but coming out).
Edinburgh (a great school).
Aberdeen (a good school).
Glasgow (a large school).
St. Andrew's (ten practitioners yearly).
Then there are:
The College of Physicians (examining).
The College of Surgeons (examining).
The Apothecaries' Company (examining).
The College of Physicians of Edinburgh (examining).
The College of Surgeons of Edinburgh (examining).
The Faculty of Physicians and Surgeons, Glasgow (examining).
Then there are in Ireland:
The University of Dublin.
The Queen's University.
The King and Queen's College of Physicians (examining).
Royal College of Surgeons (examining).
Apothecaries' Hall (examining).

Those marked "examining" do not have their own teaching; whilst the universities teach, except London, which examines, and St. Andrew's, which confers degrees to the number of ten yearly upon practitioners of forty years of age, who are recommended for their respectability and position. Many good men do not take an M.D. when students,—sometimes from want of friends, more often because they have not taken out the precise course of study required, and cannot rectify the error. So they go up to St. Andrew's when they reach forty, and the ten who stand highest at the examination come out "M.D. St. And.;" and good men the St. And. men usually are. Well, now, these bodies have a natural clinging to life, and are by no means inclined to improve themselves out of existence. Each has a representative at the General Council, while the queen appoints six. Curiously, the members of the profession have no direct representatives, as of course they ought to have. The British Medical Association

has a journal of its own,—its voice,—but the *Lancet* is a private enterprise; so is *The Medical Times and Gazette*, and also *The Medical Press and Circular*. These different journals chirp or thunder according to the topic and the mood they are in. Then the medical students have two organs, *The Students' Journal* and *The Medical News*, in which the student makes his voice audible. Of course the student has to do whatever his seniors think good for him. He has at least plenty of choice as to where he will take his qualification to practise. He may aim high or he may aim low. If he cannot get through at one place, he can try another. Which are the hard examinations, and which the easy ones? Thank you, gentle reader, I shall keep my opinion to myself, especially about the latter. There are thin-skinned persons in this world, and good men who were not particularly given to study at that time of life when examinations are passed, and who have made up for their careless student-days by hard work in after-life. So, if it is all the same to you, we will remember the old saw, "Comparisons are odious." Those corporations who go in for the lenient examinations plead that many localities could not afford a high-priced article in the shape of a medical man, and, on the "half a loaf is better than no bread" argument, undertake to provide for these impecunious areas. It is a delicate matter, rather, with them, and the one-portal examination scheme is not palatable to them. The feelings of these various corporations are respected in so far that it is proposed to allow them to continue to grant their licenses to all who wish for them,—beyond this one "state examination," which shall be imperative. But the prospect is not alluring. After a man has passed the requisite "state examination," he may wish to go in for something harder; but he is scarcely likely to go to the trouble and expense of taking an honorary qualification which ranks lower than the qualification he already possesses. So these lower portals see that they are going to be starved to death if the state-examination scheme comes into play. Recently the Council sent visitors to the different licensing boards to observe the examination process of each and report accordingly, for their instruction, perhaps their guidance. When the protests of the doomed corporations have died down to whispers, possibly some real living action will be taken; but not till then. That the profession should be directly represented is but right; still, the talk on the subject leads to nothing so far. The Royal Commission took evidence from the profession some time ago in connection with a medical act which will be brought forward when the Irish bills are done with, and many legislative measures, passed which are at present delayed by the Irish obstructionists. Possibly when that day arrives something will be done. But no country practitioner, it is

said, was examined as to his views. At present the British Medical Association is paralyzed by the antagonism existing betwixt the present editor of its journal and a large section of the members. The editor has a weakness in favor of advocating his own opinions, apparently rather because they are his own than because they are worth something in themselves. For instance, lately he has taken up the whim that it is desirable that medical men be made to notify every case of infectious disease they see to the sanitary authorities, or if they fail to do so they must be fined. Which means, so far as I can understand it, that if a small tradesman's servant-girl has the itch, she cannot go to the doctor without the sanitary authorities being formally made aware of the fact, with what consequences to the small tradesman those best acquainted with village life can best tell. The editor is a Londoner, and knows exceedingly little of the nature of a doctor's work or his position in rural communities, but he is fully aware how an editor can push himself and his views when he breathes the breath of life into the mouth-piece of a great association. But this time he burned his fingers: an association is being formed "having for its simple object to oppose the organized attempts that are being made to compel medical men, under penalty for default, to notify to the sanitary authorities, without the exercise of any discretion, cases of infectious disease;" in other words, an association is being formed within the British Medical Association to counteract the policy of the editor of its journal, who, at the same time, is the chairman of the Parliamentary Bills Committee. Liverpool sent up a petition signed by over two hundred and fifty of its leading medical men to Parliament against this compulsory notification. The editor is likely to have a lively time at the next annual meeting at Worcester, unless he beats a retreat in the mean time, a strategic manœuvre most persons would execute under the circumstances. Leaving the Association to conduct its own affairs, this antagonism betwixt the editor and a large section of the Association makes the utterances of the journal of little or no weight; and yet it is the mouth-piece of the profession, or ought to be, and, under other circumstances, would be,—perhaps, ere long, may be. Anyhow, as matters stand, the medical profession is practically dumb, and its affairs are managed for it. True, the members of the General Council are medical men, but nineteen of them (the great majority) are there as the representatives of corporate bodies, whose interests they look after rather than those of the profession at large. Different views were expressed about the report, which need not be enumerated here. When France was swiftly drifting into difficulties a century ago, an Assembly of Notables was collected to consider how they would

be taxed; but one did not like this, and another did not like that, and so they muddled on till the Revolution, like the flood, came and swept them all away. When our legislature has got through its present mass of urgent requirements, probably it will make a clean sweep of the old existing licensing bodies, with little regard to their feelings; but a good deal of discussion will take place before that time arrives.

It may be of some interest to your readers to have a brief survey of the matters discussed by the Medical Council this session. First came a scheme for the registration of midwives, submitted to them by the Privy Council. It was decided that a committee sit on the matter. Then a dentist's name was erased from the Register. After that another dentist was considered. He carried on practice in his own name at two establishments, and at other two he hoisted other names. It does not appear what especial advantage he expected to derive from this device. But, after an hour and three-quarters' private deliberation by the Council, his proposition to put his own name up at all the places was accepted. Then came the consideration of preliminary examinations and what examinations would qualify for entrance upon a course of medical study,—a long matter. Linked with this came up "personation" at examinations. It appears that a gentleman in Ireland was anxious to study medicine, but was so diffident about his education that he offered a medical man two hundred pounds if he would go up and pass an entrance-examination for him. In the discussion, it appeared that at a recent examination of the Royal College of Surgeons of Ireland the candidate who headed the list was not in Ireland at all at the time the examination was held. Still more surprising, it turned out that this is not an unusual occurrence in "the Green Island." Indeed, one "grinder" in Dublin retained a well-informed young man for the convenience of diffident youths, so that instead of paying the "grinder" to grind them up for their examinations, they had the less troublesome alternative offered them of a substitute who would personate them if required,—an alternative of which several availed themselves. This defeat of the intention of a preliminary examination evidently calls for some remedy. They have queer little ways of their own in Ireland, and this personation is one of them. So the Council wants to know what steps are taken by the different examining bodies against personation. From that they went on to the consideration of the question of dissection being made a part of every primary professional examination, in order to avoid cramming. This is all right enough: cramming is a very bad thing; but then, if there is anything to be crammed in a student's career, the objections to cramming anatomy surely are less than any other subject. This remark

is not to be understood as advocating the cramming of anatomy, but rather as levelled against the inordinate attention paid to this subject in the past. "The men knew their anatomy, anyhow," said a teacher of the old school. Well, perhaps his pride was pardonable; but, unless they knew something else, they were not calculated to be very safe practitioners. Perhaps a little more physiology might not be amiss. Suppose, now, that each man were made at his primary examination to trace the course and metabolism of an albuminoid from the time that it enters the stomach till it is cast out as a urine solid or a bile acid; track it through the portal vein to the liver, to the tissues, if that is its direction, until it is worn out and returned to the liver to be burnt up; or give its career, if part of the *luxus consumptionis*, and the mode by which it is got rid of. This would be a practical matter that would be of service to the student every day of his life. But dissection, the insertion and attachment of the muscles of the thigh,—what earthly good are they to nineteen men out of twenty at any period of their existence? Well, it is unamiable to be too critical, so nothing more need be said. The Irishmen said dissection ought to be a part of the primary examination; the Scotchmen said it was a very proper thing, but where were they to get the subjects requisite for such purpose? There was a slave-trade carried on with Ireland from Bristol in the old days before the island was annexed; but of all the ways of giving Ireland a boost in its present predicament, the exportation of corpses to Scotland for medical-examination purposes is the one least likely to be sanctioned by the English Parliament. The comparative value of life and the ways of the Scotch and Irish are contrasted in this matter of the difficulty of procuring subjects for anatomical purposes in the one country, and the ease with which they are acquired in the other. In the end it was voted that such examination by dissection was "desirable," but not "imperative." Then Dr. Ernest Hart headed a deputation anent this registering of midwives, and gave some historical account of their past and present position; and the Council thanked the gentlemen for so kindly affording them so much information. Then came up the question of examining medical students on chemistry in a laboratory. So that was carried. But the motion that candidates be examined in practical surgery by actual operation on the dead body fell through. The motion referring to examination in practical pathology, by requiring men to know the differences between normal and morbid tissues, was carried. This is very desirable. We are simply nauseated with microscopical investigations into histological changes; but very few men know a diseased from a healthy kidney, unless the change be very pronounced, and, when called upon to make a

post-mortem examination, do not always show up to great advantage, as some criminal trials of recent years tend to show. Then followed a lively discussion on the distinction betwixt "nervousness" and "ignorance" in candidates undergoing examination. The Rev. S. Houghton, a most brilliant Irishman, went straight at the subject, and said nervousness meant ignorance; and if a man was nervous in an examination he was not fit to be a doctor or to face the emergencies of medical practice. Probably Irishmen are not troubled much with nervousness: if they were, their lives would be very uncomfortable at the present time. He thought fifteen minutes ample time to find out if a candidate knew his subject or not. Then Dr. Lyons remarked that something lay with the examiners: "good examiners are exceedingly rare; bad ones, plentiful." (Will the reader please note the inverted commas of this last sentence?) Some examiners have tact, and can find out what a man knows; while others take up much time in such effort. Then there were men who could only extract their information slowly. Surely, to be slow at getting out knowledge is as bad in the emergencies of practice as nervousness! Opinions varied. Some were for sharp examinations, others for giving a little more time in some cases. Sir William Gull was sure that many men were plucked for nervousness, and that the student should be more considered when under examination than he is at present; and there is no doubt the medical baronet is right. But how about brutal examiners? Should not they be removed? There are men—at least men anatomically, if not ethically—of whom common report speaks most unfavorably as to their conduct at the examination-table. Men really well up in their work dread coming before these examiners. There are not many of these inconsiderate creatures, true; therefore, the less difficulty in getting rid of them. If the existence of nervousness is admitted, the question of bearish examiners necessarily and logically follows. An unsuitable meal cost Napoleon dear both at Borodino and Leipsic, and the career of a promising young man may be wrecked by an examiner forgetting to behave like a considerate gentleman, or, at least, trying to come as near it as his individuality will permit. With a nervous man, a harsh manner and a sharp time-limit may determine his rejection almost to a certainty. A nervous man will usually take the trouble to get his subjects up thoroughly; but the man who feigns nervousness at an examination is a dissembler of a very objectionable character, and his rejection is most desirable. His ignorance is blended with deceptiveness in such a way as to make it highly desirable that he never occupy the position of a medical man brought into contact with suffering humanity in its gravest emergencies. This man at a critical moment would be most

likely to affect the greatest confidence in himself, when a second opinion is absolutely essential to the patient's preservation, and so prevent the anxious friends from taking action until it is too late to be of service. How much avoidable misery, how many bread-winners lost, how many mothers allowed to slip into their graves, leaving little ones to be looked after by strangers, loved children taken from sorrowing parents, have there been, just because some medical man does not like to own that he has come to the end of his intellectual tether, will never be known till all hearts are opened at the last assize. Probably a more difficult matter never came up for decision in the history of educated man than this one of "nervousness" or "ignorance,"—justice to the examined man, justice to his patients in the future. I have never been an examiner; if ever I should occupy such a position, the responsibility will be fully realized. Whatever our duty to ourselves or our duty to the profession to which we belong, our great duty is to the public who intrust their lives to us. Assassination is a detestable crime, but it is pardonable compared to an avoidable ignorance which costs a fellow-creature's life. The man who could affect nervousness to cover ignorance at an examination is a man who, in after-life, would fill a cemetery with dead husbands, and allow widows to die broken-hearted, and orphans to qualify themselves for the fires of hell for want of some one to teach them better, sooner than bow himself to admit that he did not understand a case or how to treat it properly. These are the "black sheep" of the profession. The medical profession can afford to own that it does have its "black sheep," by which is meant not open, disreputable blackguards, but men who fail to estimate fairly their own interests as compared to those of others; men who are exquisitely punctilious about their rights, but who are not so hypersensitive about their duties,—a much more dangerous class of man, for his outward respectability is such as to effectually cover his black-hearted selfishness from the vision of most persons. This man lives upon the reputation of the profession, the unselfish devotion of others; and, thank heaven, the medical profession is able to float a good deal of this kind of dead-weight if necessary! But it does make one at times feel a little honest indignation to see how an artful individual can take advantage of the fair reputation of the profession. And the man who can feign nervousness to cover ignorance at an examination is the man who would perpetrate the selfish indifference to others just denounced. The good men of the profession so preponderate that they can ask to have such potential "black sheep" weeded out; and if the examiners can see their way to doing it effectually, the profession at large and the public will be equally grateful to them for doing so. J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the Hall of the Society on June 14, 1882. Dr. Henry Leffmann read a "Note on Schuylkill Water." (See page 778.) A motion to refer the paper to the Committee on Hygiene, etc., having been made, discussion followed on the subject-matter of the paper and the pending motion.

DISCUSSION ON PHILADELPHIA WATER-SUPPLY.

Dr. Welch said that he objected to the motion to refer the paper to the Committee on Hygiene and the Relations of the Profession to the Public for publication in the daily papers. Such a disposition of the paper he thought inadvisable at this time, as the Board of Health had just condemned the Girard Avenue sewer, which empties into the Schuylkill River near where the water-supply for the city is taken, as a nuisance prejudicial to health; a statement to the contrary emanating from the Society might interfere with the movement inaugurated by the authorities looking towards abating the nuisance. Whether chemical analysis approved or condemned the water-supply, or whether it was better or worse than that of other cities, was of minor importance in comparison with the fact that sewage did flow into it at a point above the pumping-station, and such sewage evidently ought to be excluded.

Dr. Bartholow said that he believed that water might be seriously contaminated and yet such contamination escape the present method of analysis. The injurious quality of sewage might be carried for long distances, for disease-germs are capable of retaining activity under a variety of conditions. The processes of purification to which a slow-flowing river like the Schuylkill is subjected would not be likely to accomplish complete renovation if sewage really entered it, and the samples submitted this evening for the inspection of the members were in themselves sufficient evidence of the serious contamination which the water suffered. Schuylkill water at best is not first-class, and is often objectionable: distinct evidence of impurity can often be found by smell and taste. The protection of the water-courses from contamination is a problem of the highest hygienic moment. It has not yet received proper attention in this country, because the necessity for it has not yet been felt, but the present is the time that a strong effort should be made towards awakening public interest, as it would be more easy to prevent than to cure the evil. England, on account of her dense population, has long since felt the necessity of attention to these matters, and has protected by stringent laws the purity of the water-supplies.

Dr. Eskridge said that physicians practising in the northwestern portion of the city had met with, during the month of March of the present year, a great number of cases of diarrhoea in the 29th Ward. Many assigned the condition of the water (which was quite muddy at the time) as a reasonable cause for the trouble. He was not aware that this section of the city receives a different water-supply from some of those in which no increase of intestinal disorders occurred at the time, yet on this condition of things the excitement recently created by some of the newspapers was based. That water into which sewers empty being drunk is capable of giving rise to disease cannot be doubted. Dr. J. H. Hutchinson had recently read a paper before the College of Physicians of Philadelphia, detailing a large number of cases of diarrhoea occurring among the workmen in a sugar-refinery on the Delaware River front, this establishment having been supplied with water pumped directly from the river near the mouth of a sewer.

Dr. A. H. Smith said that he had had opportunity to compare the water of Philadelphia with that of many other cities, and had found it a good water. He had never seen any proof of its having caused disease. He thought that much of the present agitation was, as the author of the paper had remarked, mere sensation, and the Society should not lend itself to any part in such sensation.

Dr. W. S. Stewart said that, while he did not question the results of the analysis, he thought the water-supply of any city ought to be most carefully watched and kept free from even the slightest pollution. We ought not to be satisfied with having it tolerably pure; our efforts should be directed towards absolute uncontamination.

He referred to a neighbor who, under the protest of his family, had a large cistern built to catch rain-water, to use instead of water from the Schuylkill. Now the whole family are converted to its use, and they have been free from disease, and especially from diarrhoea. Dr. S. was also highly in favor of having a large storage-reservoir constructed, with a brick partition, so that the water on entering one department would be drawn off from the other side to supply the city after it had become more or less filtered by passing through the porosities of the bricks, thus straining off much organic matter, and even preventing fish from escaping into it and decaying, as they are often said to be found ejected from our fire-plugs, which, of course, would be sufficient cause for the most serious malignant diseases.

Dr. McRean said that the discussion had reminded him of the fact that a friend who had been in Mexico, in districts in which the water was bad, had found great advantage in thoroughly boiling it before using. It was thus improved in taste and in quality.

Dr. Leffmann, in closing the discussion, said that he did not wish to be understood as saying that sewer-water should be allowed to flow unrestricted into the Schuylkill, but the practical point was that the water from the Girard Bridge sewer was not very foul, and was very small in amount, and analysis showed that it did not seriously pollute the water. It was true, as Dr. Bartholow had said, that chemical analysis might be unable to detect some of the injurious ingredients in water, but such analysis is all we have on which to base a positive opinion, and, so far as that went, it showed that the Philadelphia water was of good quality. In regard to the statement that much diarrhoea recently existed in the northwestern part of the city, it must be noted that that district does not get the worst water. The district east of Broad and north of Callowhill is partly supplied by Delaware water, which is always more impure than the Schuylkill water. The essential point to be impressed upon the public and upon the authorities is that the most urgent requirement of our water-systems is the construction of a storage-reservoir of large capacity. The construction of intercepting sewers is important, but is not at present the most essential point. The liability to muddiness and the occasional scantiness of the supply are the prime difficulties with the present system.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MAY 11, 1882.

The PRESIDENT, Dr. S. W. GROSS, in the chair.

Cirrhosis of the liver; enlargement and dropsy of the gall-bladder; closure of the gall-duct; enlarged, pulsating, superficial epigastric vein; enlarged spleen; ascites, hydrothorax, œdema of the abdominal walls and of the legs; absence of early dyspeptic symptoms and of spirit-drinking; cause, possibly chronic lead-poisoning. Autopsy.
Presented by Dr. J. H. MUSSER.

ON the 11th of November, 1881, Mr. S. applied to the medical dispensary of the Hospital of the University for treatment. He was 41 years of age, a car-painter, of good habits, and free from the suspicion of hereditary taint or specific disease. He was married; the father of healthy children. He stated that his illness was of a duration of one year, and that it began with slight jaundice, which gradually increased in intensity. He did not remember any dyspeptic symptoms previous to or since the jaundice. His abdomen began to enlarge three or four months previous to the visit. His bowels had always been constipated. He had lost flesh and strength.

We noted them as follows: features sunken;

marked venous stigmata on cheeks and nose; dark-yellow hue of skin, and yellow conjunctiva; emaciation; harsh and dry skin; distention of the abdomen; œdema of the feet. As noted, the abdomen was considerably enlarged, and, on palpation and percussion, fluid was detected in the cavity. The superficial veins of the right side were not enlarged, but the superficial epigastric vein of the left side was very much enlarged and tortuous, and midway between the umbilicus and the xiphoid cartilage, an inch from the median line, it dipped down through the abdominal walls.

The appetite was good, tongue clean and red, no dyspeptic symptoms, constipation, stools yellow or brown, no hemorrhoids. The liver-dulness was lessened, extending in nipple-line on deep percussion, from the fifth rib; on light, from the sixth interspace to one inch above margin of ribs. In the axilla the dulness was three inches in width. Palpation negative. The spleen was not enlarged. Urine the color of porter, frothy, and showed, with nitric acid, bile-pigment. There was a slight trace of albumen, uric acid, and amorphous urates in abundance. No casts or epithelium. Treatment, diuretic mixture containing tinct. digitalis, potas. acetas, acet. scillæ, spt. juniper. comp., liq. ammon. acet., and a draught containing 10 grs. ammon. mur. to the dose, three times daily.

He continued his visits to the dispensary till the 29th of the month, all the while improving, so that on the last visit he had scarcely any ascites, no œdema of the feet, and much clearing up of the skin. Called to see him January 5, 1882. Found him in about the same condition as on his first visit, save that he had in addition severe cough and dyspnoea, caused by a right hydrothorax, and a hydrocele, and much flatulence, causing suffering. Under the treatment detailed below, the œdema of the feet and the hydrothorax subsided; the ascites diminished. The wasting, however, progressed, the features became more sunken, the face more injected, the jaundice continued. The tongue remained red and raw; flatulence and a "stuffed-up" feeling mostly annoyed him. The bowels were loose. The urine, which had been scanty, increased in amount. Its characteristics were the same as when first analyzed.*

To show that there was serious internal obstruction to the circulation, there developed at first in the right hypochondriac and the lower half of the lumbar and umbilical regions capillary injections in half-moon patches; the entire skin of the abdomen in the later stages was so marked. The spleen was enlarged to twice its natural size.

Treatment.—On the first visit rest and milk diet, ammon. mur. as before, and a mixture of acet. potas. and inf. digitalis. The latter

nauseated him so that its use had to be abandoned. Citrate of caffein was of good service, increasing the flow of urine perceptibly; it caused wakefulness, however, so that chloral had to be added, and the combination did not act so well. Digitalis, calomel, and squill in pill were of some service, but soon so nauseated him that they had to be given up. After the dropsy and diminished supply of urine, flatulence was the most serious symptom. Carbolic acid, bismuth, charcoal, pepsin, etc., singly or in combination, were of no avail, while spirits of turpentine not only gave prompt relief to the flatulence, but acted well as a diuretic and vascular stimulant. With caffein and turpentine, rest, and restricted diet, he was brought to the condition mentioned above. Anasarca much diminished. Paracentesis was frequently urged, as frequently refused.

February 8.—His condition remained at about a stand-still. At a consultation, calomel one-tenth grain, pulverized ipecac one-twelfth grain, in pill, every three hours, were ordered. Sodæ et pot. tart. $\mathfrak{z}\text{j}$. and ac. tartaric. $\mathfrak{z}\text{j}$. in Oj of water, to be taken in twenty-four hours. Again increased diuresis for a short time, with relief, occurred, to be followed by an aggravation of symptoms. Elaterium and calomel *pro re nata* replaced the above pill. Hot air and Turkish baths, with no avail. Jaborandi caused diaphoresis, and relieved anasarca considerably.

From March 2 to day of death, attended by another physician. Anasarca increased, jaundice more intense, urine diminished, slight capillary hemorrhages in mouth and throat. The last two months, complained of pain in the epigastrium and hypochondrium, and the twenty-four hours previous to death, of severe excruciating pain in the lower part of the abdomen. Death took place from exhaustion, mind clear, on March 24. For six weeks previous to death a characteristic feature was œdema of the abdominal walls and back.

Forty-eight hours after death I made the autopsy. Rigor mortis well marked. Œdema of feet, of abdominal walls, and back. Skin discolored from jaundice; ecchymoses on back. Abdominal cavity contained three gallons of serum. No peritonitis. Dissection of the superficial epigastric vein showed that at the point mentioned in the clinical notes it dipped down through the abdominal wall, and ran along underneath the muscular fascia, between it and the peritoneum, to the falciform or suspensory ligament of the liver, in which it anastomosed with enlarged veins. One of these veins, as shown by Sappey (quoted by Trousseau), "enters the left branch of the portal sinus, where it is attached to the cord of the umbilical vein." There was no peritonitis. Liver weighed thirty-two ounces; right lobe measured three inches transversely, and four antero-posteriorly, at the left two and one-half and four inches respectively. It was a perfect

* The notes as to the amount of urine passed daily under various forms of treatment were mislaid, as well as the various measurements of the abdomen and feet.

example of true cirrhosis. The gall-bladder was three times its natural size, distended with clear serum. Its mucous membrane was swollen, roughened, and congested. It contained no gall-stones. The gall-duct was impervious; the hepatic and common ducts were much dilated and inflamed. The kidneys were enlarged, hard, and congested. The spleen was enlarged to twice its normal size, dark red, firm on pressure; its capsule thickened. The right pleural sac contained a large amount of liquid. The heart was soft and flabby and bile-stained. All the tissues were stained with bile.

It is of importance to note in the case the absence of spirit-drinking as an etiological factor. I am disposed to think the exposure to lead in following his occupation, although other lead-symptoms were absent, was the cause of the cirrhosis. If it be true, it shows distinctly that the early dyspeptic symptoms of cirrhosis, so markedly absent in this case, are due to the local action of the irritant alcohol, for the poison in the case was inhaled, and hence no irritant to excite dyspepsia. On account of the absence of alcoholism and dyspepsia, the diagnosis was somewhat difficult, and for a time carcinoma of the liver was considered. The diminution in size, and the enlargement of the spleen, were strong factors. The most important point to us was the enlarged external vein. I have never seen or heard of its occurrence to so marked a degree in cancer of the liver. The increased size of the gall-bladder was not made out during life, possibly because of the tense and afterwards œdematous abdominal walls, and partly because of the organ having been behind the ribs and higher up than normal.

I cannot account for the condition of the gall-bladder and duct, either by symptoms or by the post-mortem appearances. The patient never, to his knowledge, had calculi or any severe local inflammation. It may have been a congenital state. There is no doubt that the common and hepatic ducts were inflamed and aided in the causation of the jaundice. Early and frequent tapping, I believe, would have prolonged life, had it been permitted by the patient.

Sclerosis of the head of the pancreas. Presented by Dr. J. TYSON.

The specimen was derived from a lady aged 68, who, while for years delicate in appearance, had very little serious illness until February, 1880, when she had a very severe attack of catarrhal pneumonia which involved successively both lungs. For a year or two before and since that time she would have occasional attacks of flatulent colic with constipation, apt to terminate in diarrhœa. In July, 1881, while residing for the summer in a most healthy mountain-district, she was seized with a diarrhœa in which the stools were typically clay-colored or ashen in appearance.

There was uneven and irregular distention of the abdomen, as though circumscribed areas of bowel were distended with gas. I visited her in July, 1881, and found such a lump, which seemed rather more than usually fixed, just to the left of and below the umbilicus. She only partially recovered from this diarrhœa, and remained very weak. She returned to the city in October, 1881, feeble and emaciated, with a distinct tumor just below and to the left of the umbilicus. A part of this lump was evidently gas, but at its base I thought I could detect a harder and more resisting portion, which was also tender on deep pressure. But of the presence of this hard base I could not then be certain. The diarrhœa continued, and all attempts completely to control it failed. For two or three days at a time, under the use of opiates and astringents, there would be no movement, when would come a sense of discomfort which was relieved by a discharge, at first formed, but finally liquid. The stools soon became distinctly fatty, the milk which formed her almost exclusive diet seeming to be discharged little altered, although there was often some semi-liquid or even partly-formed ashen-hued fecal matter. The same knots of distended intestine continued present at various situations and with varying degrees of distinctness. As she grew thinner, the lump in the neighborhood of the umbilicus became more and more distinct, until I was satisfied that it was a tumor above which lay a knuckle of intestine distended with gas. Hard percussion could always bring out dulness, and the tumor was very sensitive and tender. The fatty diarrhœa continued, and she grew weaker and thinner and more bloodless, until she seemed a mere shadow of her former self, and the abdominal organs could be easily mapped out through the thin walls.

There was never any vomiting, although there was a good deal of nausea at times. Her circulation and respiration were unaffected. The diagnosis of pancreatic disease, rather than of cancer of the stomach, which was made before death, was based upon the absence of vomiting and fatty diarrhœa. She died March 13, 1882.

The autopsy was made twenty-four hours after death. The lump near the umbilicus, easily visible before death, had almost entirely disappeared, in consequence of a uniform distention of the abdomen. There were no lesions of the heart, lungs, stomach, or liver, but about the head of the pancreas were a number of adhesions, so that it was with considerable difficulty that the head of the organ could be isolated. The pancreas was removed with a portion of the gut attached, and found to be hard and resisting, but little enlarged.

Minute examination of the growth revealed an almost purely fibrous structure, with but imperfect alveoli and indistinct cellular contents.

Report of the Committee on Morbid Growths.

—"A microscopical examination of a thin section of the pancreas shows an increase of its fibrous tissue, and an atrophical condition of its secreting structure. The change may be termed a sclerosis of the organ.

"June 22, 1882."

Dr. O'HARA thought that the fatty stools as diagnostic of carcinoma of the pancreas, to say the least, were unreliable.

Dr. TYSON thought, on the contrary, that the early appearance of this symptom, and its long persistence, as in this case,—viz., nine months,—were of the utmost value in deciding upon the presence of pancreatic disease.

Dr. SHAKESPEARE said that Dr. Tyson's case recalled one with similar symptoms, the history of which Dr. Curtin read at the last meeting of the State Medical Society. It presented many similarities, such as fatty diarrhoea, etc., and the diagnosis made was carcinoma of the pancreas. At the post-mortem examination the morbid appearances presented were similar to those seen in Dr. Tyson's specimen. Upon microscopic examination by him, no evidence of malignant disease was found, the pathological changes consisting chiefly of increase in the periglandular connective tissue, and catarrh of the duct and acini. As he remembers it, the gist of Dr. Curtin's paper was the claim that the disease was really a catarrhal pancreatitis.

Dr. MUSSEK asked if there were any bloody stools, as such have been described as constantly occurring in chronic pancreatic affections, such as sclerosis, pancreatic calculi, etc.

Dr. TYSON replied that it was interesting to note that the family had referred to this symptom, having told him that occasional bloody stools had been observed. He had not seen them himself, and was therefore in doubt, knowing the tendency of patients to describe discolored stools as bloody. The patient had been fed on milk. The tumor was much smaller and less characteristic in appearance than when removed. The reagents had changed the appearance of the specimen.

Dr. NANCREDE thought that the specimen was unlike any case of pancreatic carcinoma he had observed, in that after so long a time the growth was so small; and he was inclined to think, in default of microscopic examination, that it was of a benign nature, death resulting from exhaustion owing to the non-absorption of fatty food from deficiency of the pancreatic secretion.

ADMINISTRATION OF IRON.—The tincture of chloride of iron may be administered with safety to the teeth by enclosing it in a capsule of gelatin (Humphreys, in *Med. and Surg. Reporter*). A good method is that in use at the German Hospital, of combining the tincture with phosphoric acid, Curaçoa cordial, and water, or the solution of the acetate of ammonia.

PHILADELPHIA ACADEMY OF SURGERY.

STATED MEETING, JUNE 6, 1882.

The PRESIDENT, Dr. S. D. GROSS, in the chair.

ABSTRACT OF DR. NANCREDE'S PAPER, OPENING THE DISCUSSION ON ANTISEPTIC SURGERY BEFORE THE ACADEMY OF SURGERY.

THE paper being too long for full publication, the following abstract contains merely the main propositions and conclusions, without the support of any arguments or facts.

The claims of the Listerians were first examined, and the results of the treatment of a large number of cases by various surgeons were compared with similar records of patients treated by the older methods of dressing. It was contended that Listerians do not maintain that similar results to those obtained by aseptic surgeons were not secured by other methods of dressing *under the most favorable surroundings*, but that, *under the most adverse circumstances*, the best results are obtainable as the rule, and not as the exception; that traumatic fever, suppuration, pain, etc., were entirely prevented in many cases, and reduced to a minimum in all. They maintain that all cases of septic diseases were done away with, except those arising from other than the wound itself. It was demonstrated that Listerism and the Listerian method of dressing were two separate things,—i.e., the former being the principle of attempting to prevent putrefaction of, and consequent infection by, the wound-fluids, and, as a resultant, the prevention or summarizing of suppuration, prolonged healing, etc., while the latter is a mere set of procedures by which these indications are carried out. Suppuration is not necessary for the healing of wounds, and is dependent not only upon the presence of germs in the air, but upon tension of tissues and the presence of intra-traumatic causes of irritation. These first indications might be carried out in various ways: i.e., the germs might be destroyed before reaching the wound, or after free access to it by them rendered incapable of mischief by various germicidal applications. Listerians insist that free drainage is as essential for preventing suppuration, by relieving tension and the removal of intra-traumatic irritation, as the destruction of germs; that perfect cleanliness, perfect coaptation, perfect drainage, and quiet are essential parts of both the theory and the method. The spray is the least essential part, success having been attained in the past without it, and it is merely a convenience, obviating the necessity for rapidity in operating, and for the deluging of wounds with an irritant like carbolic acid. It was contended that the use of this latter agent did not constitute, as had been lately stated, Listerism, but that many other similar agents had been

used successfully. The argument that germs were found under the dressings, and that therefore the system was a failure, was absurd, since the *facts* still remained, however incorrect the explanation of the good attained might be. He showed that only certain forms of organisms were found *which did not favor putrefaction*, and they were only discoverable after the dressings were left on for many days, and that they increased from *without inward*. Their *destruction* was shown not to be absolutely essential, since the substance produced by their development had been found by experiment neutralizable by minute portions of various agents, and that the danger of organisms was dependent upon their quantity, and whether the surrounding tissues were in contact with them, were inflamed, or the reverse. For those who could not accept the germ theory, he showed that all the proved good attained by Listerism and other *modern wound-dressings* would be explained upon other hypotheses. In support of all the foregoing, he adduced a large number of facts upon both sides of the question, reviewed the objections, real and alleged, and insisted that it was unfair and unscientific to ignore the vast accumulation of facts and the opinions expressed by so many distinguished men, either upon the ground of the results of imperfect attempts at Listerism, or, as is vastly more common, on pure *a priori* arguments, without a particle of personal observation or experience. He had himself tried Listerism for some years, had then purposely tried various other wound-dressings, and had come to the conclusion that he would *return to Listerism*. Many other than the above points were freely discussed, but for them the reader must be referred to the original paper, which will be published *in extenso* at some future time.

Dr. Hunt was unable to speak from personal experience of the positive advantages of Listerism over the general plan. Listerism, to a certain extent, had been introduced into the Pennsylvania Hospital, but the observations as yet are too few for any reliable data. The general plan of treatment is antiseptic, but not Listerism in detail. The results are satisfactory, although of late there has been some pyæmia. The hospital has been remarkably free from this trouble of late years. Whether any atmospheric or other conditions favor its reappearance we cannot say.

Dr. Willard said that while statistics could be and often were manipulated to suit the views of a particular individual, yet that, when taken in large numbers and from opposing sides of a question, they should certainly weigh strongly in arriving at a decision. Few have an experience sufficiently large to warrant a positive opinion upon this subject, but the most valuable statistics are from those who have tested thoroughly both the old and the new systems of wound-dressing.

Those who have conscientiously and exactly followed the practice of Mr. Lister have almost universally given it their unqualified approval, and but few have been willing to return to their old methods. Many there are who but half fulfil the requirements, and that only in a few cases, and then denounce the system because they do not obtain the brilliant results secured by Mr. Lister. They are like the surgeons who decry *rest* in the treatment of joint-disease, because by resting the limb for only a few hours, and then permitting the child to run and fall and play during the remaining hours, they do not secure good results. The reason of failure is obvious. If those who are so ready to detract from Mr. Lister's services will, however, but calmly consider their present practice and that of their colleagues, they will see that the English surgeon has compelled the recognition by the surgical world of the great doctrines of absolute cleanliness, thorough drainage, and the shutting out of all irritating influences. As to the means to be employed for carrying out these principles, opinions will ever differ, and must change from time to time. A decade hence will probably see us all treating wounds more successfully than we do to-day, yet the general plan must be in accordance with the rules at present in vogue. In his own practice he had found that the nearer he approached to the enforcement of these principles, the better had been his results. In a recent hospital case, the removal of the entire breast from a feeble woman past sixty, and a sufferer from chronic diarrhoea, although antisepticism was but imperfectly carried out, yet the whole wound healed by first intention, even the drainage-track falling in and closing as soon as the tube was removed. The shortening of the time of the healing process to ten days was certainly worth striving after. In joint-surgery the system had certainly accomplished wonders; and if it was capable of standing this severe test, it was worthy of confidence in lesser dangers.

Dr. Mears said that he had had some experience in antiseptic surgery, both in public and private practice, and he was satisfied that his results had been better since his adoption of antiseptic methods. In St. Mary's Hospital, where he is surgeon, antiseptic surgery had been practised for the past four years with the most decided benefit. The hospital labors under the disadvantage of occupying a building which was constructed for commercial uses and had been converted subsequently to hospital purposes. Naturally many defects in hygienic conditions would exist in such a building under the most favorable circumstances. The hospital is in the midst of railroads and mills, and receives into its surgical wards some of the severest forms of injuries. It is the experience of the surgeons in attendance that much more favorable results have occurred in these cases since the intro-

duction of antiseptic methods. In ovariectomy he has had most positive evidence of the value of antiseptic precautions, and performs all of these operations in accordance with antiseptic methods. He felt that Mr. Lister had made a valuable contribution to surgery, and that surgeons all over the world had learned much from him. On the continent of Europe, especially in Germany and Italy, surgical procedures had undergone, as it were, a revolution, and the best results were obtained in operations under antiseptic methods which before had been attended with the most unfavorable results. The theory of Mr. Lister may be faulty; the practice is good, and has done much for mankind.

Dr. Nancrede said that if additional statistics were needed to prove that the positions he had taken were correct, he could quote the results of Listerism as published by many prominent surgeons. He simply asked that the method be tried, and that those who founded their opposition upon their long-successful *experience* with other dressings would at least be consistent, and not condemn that of which they had no personal knowledge upon mere theoretical grounds. His own statistics were certainly too small to bring forward as proof, but, so far as they go, the operation-books of the hospital will show that his amputation death-rate was lower than that obtained by his colleagues, notwithstanding that his cases—amounting to precisely one-half as many in six terms as those performed by the other surgeons during twenty-three terms—comprised a much larger proportion of severe cases, including two hip-joint and two shoulder-joint amputations.

The speaker remarked upon the peculiar unfairness with which Listerians were treated, saying that any other statements made by them as to matters of fact were implicitly believed, yet when anything relating to aseptic surgery was brought forward, profound doubt or absolute scepticism was felt and expressed; yet their statistics are brought forward with the full knowledge that their sources are open to others who can disprove the alleged facts if false. We have no right to shut our eyes to the result of such statistics, not selected, but of all the operations performed by many prominent surgeons. When Paget, after his more than forty years' experience of all methods of treatment, after stating that from sixty to seventy per cent. of patients were not obnoxious to septic disease, can say that there are several classes of cases where it would be "absolutely wrong not to adopt all the precautions of antiseptic surgery," we should certainly acknowledge the great weight of such a judicial decision.

In considering the subject, it must be remembered that much which passes for aseptic surgery is not in any sense such, whence, of course, failure results, with consequent denial of the value of the method. Drainage-tubes,

instead of doing good, as they are usually disposed, do *harm*. They are much too small, and are commonly passed across the deeper parts of the wound like a seton, *and like a seton they act*. They should be large, merely reach the parts to be drained, and be cut flush with the surface; for it must be remembered that one of the cardinal points of Listerism is the removal of intra-traumatic irritation, and, if carelessly used, tubes are an efficient cause of this.

In reply to the objections regarding a dragging stitch, he had been misunderstood. What was meant and said was that when Mr. Lister had shown that a single such suture could produce the suppuration of tension, yet that in face of this statement some surgeons will almost hermetically seal a wound, providing no *efficient* drainage, and yet exclaim when profuse, although aseptic, suppuration ensues. As all surgeons use the thermometer, he denied that keeping a wound undressed for long periods was dangerous, as this instrument will indicate anything wrong.

In the late discussion on aseptic surgery before the American Surgical Association, Dr. Cole had advanced *one case* of free incision into the knee-joint as a disproof of aseptic surgery; *but he certainly did not and could not do any such operation over and over again, as Sartorple did in a hospital where amputation of a finger would at times result in death from pyæmia.*

Pyæmia and septæmia occur in private practice, as every surgeon, the speaker included, could prove; so that even apparent cleanliness and good hygiene were not *all-sufficient*.

Dr. Nancrede doubted if any operation had been performed in this city precisely as Lister has directed. He places stitches of relaxation as well as stitches of coaptation, which insure no dragging on the healing parts, and button-sutures, which obliterate almost all the cavities which could accumulate discharges, thus fulfilling the indication of free drainage and perfect coaptation in a way which would almost *compel* primary healing. When cases are dressed precisely as Lister directs, and failure *constantly* results, then, but not before, it will be time to condemn his method.

He must refer the debaters to the body of his paper for more extended facts and arguments, but he would again deny that the spray or any kind of dressing was *Listerism*, but that it was only the *Listerian method*, which could be altered or changed in any way so long as the indications were complied with, and that, as he had pointed out, many surgeons really profited by the principles of Listerism while deriding Lister's method of dressing.

He denied that the use of carbolic acid was necessary for Listerism, and that when properly used it was so dangerous. As far as his memory served him, most, if not *all*, of the

poisoning cases following the deluging of the wound with solutions of the agent, or where injections into the loose cellular tissue, as in that around the rectum, were forcibly made, acetate of ammonia, oil of eucalyptus, salicylic acid, etc., could be, and are, successfully used. If Listerism will, under the most unfavorable circumstances, incontestably prevent septic trouble, as in the continental hospitals, it will also, under the *most* favorable circumstances, do away with all septic diseases, except those rare cases which arise from some other source than the traumatism under treatment.

The scientific point now under discussion is not whether our results are very good,—much better than those of twenty years back,—but whether they are the best attainable. The argument that Listerism is *troublesome* is too puerile to need reply when life or a limb is at stake.

Dr. Nancrede advanced other facts and arguments in support of his position, for which space fails.

O. H. ALLIS, M.D.,

Recorder.

GLEANINGS FROM EXCHANGES.

THE SOURCE OF THE LIQUOR AMNII.—Prof. A. R. Simpson, in an interesting communication to the Edinburgh Obstetrical Society, discusses the source of the liquor amnii, especially in connection with two cases of hydramnios, in which careful examination was made of the foetuses, and with the light thrown upon the subject by recent literature, of which he appends a bibliography.

"The chief point of debate in recent times has been as to the share taken by the foetal kidneys in producing the liquor amnii. According to Gusserow and his followers, this fluid is in the latter months of gestation almost entirely derived from the urine of the foetus, which is supposed to be secreted regularly by the kidneys, and evacuated from time to time from the bladder. Wiener even goes so far as to aver that, whilst at the very first the liquor amnii is derived from the skin of the embryo, soon after the fourth week the Wolffian bodies begin to furnish a fluid which escapes into the amniotic cavity; this is thus kept distended, first by the activity of the primitive kidneys, and then by the more fully developed organ. . . .

"The proof of the renal origin of the liquor is sought (1) in the presence of chemical matters, such as indigo, introduced into the foetus indirectly through the mother's blood, or directly by hypodermic injection into its own body, and secreted by the kidneys; (2) in cases where the urinary bladder of the foetus has been found distended; (3) in the hydronephroses which result from occlusion of the urinary outlets.

"1. As to the first, I can only say that after reading the papers descriptive of the experiments of Gusserow, Wiener, and others, I

cannot see that more is proved than that the renal function of the foetus is sometimes called into activity, and that the distended bladder may easily be emptied into the amniotic sac. Wiener says, 'There is no fact which compels us to doubt the regular secretion of the foetal kidneys and the occasional evacuation of the urine into the liquor amnii.' But what we want are the facts which will compel us to believe in more than an occasional secretion and accidental evacuation of foetal urine. There is abundant evidence from experiment and observation to show that the foetal kidneys can and do sometimes secrete actively enough. What is wanting is evidence to show that there is a necessity for continuous renal activity more than there is for hepatic or pulmonary activity in the foetus in utero.

"2. This leads me to notice the second ground on which the theory of the regular renal activity of the intra-uterine foetus is sustained,—viz., the observation that the foetal bladder has sometimes been found distended with urine. Such a case is related by Wiener of a woman who died of a burst varicose vein when far advanced in pregnancy, and in whose uterus the foetus was found to have the bladder tensely filled with urine. The case admirably helps to prove the point which Wiener is then affirming in his polemic with Ahlfeld as to the influence of intra-uterine pressure on the foetal secretion and excretion, but it in no way proves habitual renal activity in ordinary conditions; it simply shows that when depuration of the foetal blood is suspended in the placenta in consequence of maternal hemorrhage, the functional activity of the foetal kidneys is at once called into play. Where the interruption to the placental circulation sets in more rudely, we constantly see a corresponding effort at functional activity of the foetal lungs,—an effort, however, that is futile, because the foetus is shut up in its water-filled sac.

"3. The group of cases where the urinary ducts are atresic at some point and dilated above has also been called into court in support of the theory of the regular activity of the foetal kidneys; but if they prove anything, they prove that regular renal action is unnecessary in the intra-uterine foetus. One of the most interesting cases that has recently been recorded we owe to Prof. Rindfleisch. A six-weeks-old child, which had from birth suffered from difficulty in the evacuation of the bladder, died of pleural effusion. The difficulty was found to have been due to hypertrophy of the caput gallinaginis, which had led to vesical hypertrophy and double hydronephrosis. This is to me the more interesting, that some months ago I met with a parallel case. At the post-mortem examination, which Dr. D. B. Hart and I made hurriedly by gaslight, we did not determine the exact seat of obstruction further than that it was below the neck of the bladder. The

child appeared healthy at birth, and was well for three weeks, when it began to feed less willingly and to suffer from sickness. The nurse stated that, though the infant regularly wetted its cloths, she had never seen it pass water in a stream, only in drops. The lower limbs and abdomen became anasarctous, the peritoneum ascitic, and the infant died rather suddenly, within five weeks of its birth, with double pleural effusion. The urinary organs were found as in Rindfleisch's case. That distinguished pathologist supposes that the distention of the ureters and kidneys had begun in utero, and that such cases afford a proof of intra-uterine renal secretion. But it seems to me that we must rather suppose that in utero the renal activity had not been called out, and that it was only after the child was born that the function of the kidneys was established, leading first to hypertrophy of the bladder, then, secondarily, to hydronephrosis, and finally to a fatal issue from the serous effusions resulting from the impediment to renal action. So long as the child was in the uterus, having its blood depurated in the placenta, the urethral obstruction caused no disturbance. Within five or six weeks of the day when the renal activity became necessary for blood depuration, it led to the death of the infant. Does that not mean that during the six weeks antecedent to birth the rôle of the kidneys was entirely passive, so that a stricured urethra was a matter of indifference, and the healthy development of the fœtus was in all respects unmodified, and that immediately after birth the renal function was called into activity, and the urethral interference with it at once began to tell on the health of the child, and within six weeks caused its death?

"Whilst it seems to me, therefore, that we are not warranted in looking to the kidneys as the main source of supply of the liquor amnii, even during the later months of gestation, I by no means deny the occasional and accidental evacuation of the bladder in the amniotic sac, and I am not prepared to give a definite opinion as to the ordinary source of the amniotic liquid. I think we are wisest to acknowledge our ignorance.

"Perhaps some light may come to us by a more careful observation and analysis of cases of hydramnios. The Transactions of our Society bear ample testimony to the tendency, to which I drew its attention some twenty years ago, of women giving birth to anencephalic children to be affected with excess of the liquor amnii. It was curiously illustrated in the cases of two patients who were confined in the Maternity within the same twenty-four hours, and whose histories are fully recorded in the last Quarterly Report. These two cases had this in common: that anencephalic fœtuses were born, and the birth was attended with the escape of an excessive quantity of liquor amnii.

"I am here diverted from the main current

of this communication to call attention to the differences between these two cases, as they illustrate a cause for the excessive accumulation of the amniotic fluid which has not been specially registered, so far as I have noticed, among the causes of hydramnios. In the first case we have to do with a multipara in her eighth pregnancy; in the second the patient was primiparous. In the first the fœtus was simply anencephalic; in the second the spinal column was at the same time bifid in all its extent. If the excess of liquor amnii be due (as in such cases I have tried to show it to be) to the secretion from this exposed serous surface, the excess might have been expected to be greatest in the case where the extensive bifidity of the spine gave an additional area of secretion. The excess, however, was most marked in the first of the cases. In that patient it was such that she overpassed the normal duration of pregnancy. She came into the Maternity about the expected date of her confinement, with symptoms of labor, which passed off. The uterus was so overdistended that though contractions set in from time to time which seemed to indicate the onset of labor, they always subsided again, until the fœtus died. The membranes decayed and burst, and allowed of the escape of some of the liquid. It was only after the waters had some time escaped that effective uterine effort could take place. Now, I suggest that the greater excess of liquor amnii in the first than in the second case is to be explained by the greater laxity of the uterine walls of a multipara. The well-known statistics of McClintock give only five out of thirty-three cases in primiparous patients; of the twenty-eight multiparous cases, eight were second labors, one a twelfth, the rest intermediate. Whatever the source of the liquor amnii may be, the degree of tonicity and tension of the muscular walls of the uterus must have a large influence in determining the amount that is allowed to accumulate; and any loss of tonicity in these muscular walls will favor the occurrence of hydramnios.

"Reverting now to the possible sources of the liquor amnii, it had occurred to me that in these cases one should find in the condition of the kidneys some evidence of unusual functional activity, if their secretion were the usual source of supply. By some mishap both of these fœtuses had been destroyed without the special examination being made; but soon afterwards Dr. Alexander sent me, for class demonstration, another anencephalic fœtus with bifid spine, the birth of which also had been attended with the escape of an unusual flood of waters. I show you now the urinary organs. The bladder and ureters are empty, but perfectly developed, though no urine has passed through them. The kidneys, right and left, are small, and have undergone cystic degeneration, evidently from an early period. Here there can be no possibility of

any participation of the kidneys in the production of the liquor amnii. The liquor was unusually abundant, but the kidneys were functionally useless. It will be of some importance in such cases to collect and analyze the liquid, so as to compare it with the analysis in normal cases; but unless there be shown to be a peculiarity hitherto unsuspected in the nature of the fluid from a hydramniotic ovum, we must conclude that the secretion and accumulation of amniotic fluid can go on quite independently of the functional activity of the foetal kidneys."—*Edinburgh Medical Journal* for July.

SCIATICA TREATED BY NERVE-STRETCHING.—A woman, 54 years of age, suffering for more than two years with sciatica, but without any history of gout or rheumatism, had the nerve stretched in the usual manner by Dr. Truman, at the Hospital for Women, Nottingham, with immediate relief. Six months later there had been no recurrence of the pain.—*Lancet*, July 1.

PICROTOXINE IN EXCESSIVE SWEATING.—Dr. F. P. Henry gives (gr. $\frac{1}{10}$) picrotoxine at bedtime, and repeated once or twice daily, if necessary, as recommended by Murrell. He reports its successful use in about one hundred cases, not only in phthisical but also in other forms of excessive sweating.

EARACHE CURED BY INFLATION OF THE MIDDLE EAR.—Dr. Jacobi, of New York, asserts that earache in a young infant can often be relieved by closing its mouth and blowing through its nose so as to inflate the Eustachian tube and the middle ear.

THE INTERNAL ADMINISTRATION OF CHRYSOPHANIC ACID.—Dr. Napier, at a recent meeting of the Glasgow Medico-Chirurgical Society, showed two cases of psoriasis which he had treated by chrysophanic acid, commencing with a dose of one-eighth of a grain, and gradually increasing. The results were good, and apparently demonstrated that the drug has a general as well as a local action, and, when given internally, is capable of being absorbed and of exercising a special influence on the skin after absorption. The cases are fully described in the *Glasgow Medical Journal*.

GAULTHERIA AS AN ANTISEPTIC.—Gosselin uses the oil or spirit of winter-green as a dressing in surgical injuries and old suppurating surfaces, with good results. The proportion of oil in the tincture is about ten per cent. It is claimed that this is more agreeable than the common antiseptics, and is equally efficient.

RESECTION OF THE STOMACH.—The first case of resection of the stomach in Italy was performed by Dr. Caselli, on June 14, in a case of cancer of the pylorus. Death occurred from shock. The excised portion was carcinomatous, and measured twelve by thirteen cm. No secondary growths were detected.—*Italia Medica*, June 16.

JABORANDI POULTICE FOR INFLAMMATION.—Dr. Stetinan, in the Quarterly Proceedings of the Lancaster County Medical Society, reports several cases of incipient inflammation of the mammary gland and of buboes, and in parotid swelling of mumps, where good results followed the application of a poultice made of one part of jaborandi leaves (softened by maceration with hot water) and two parts of flaxseed meal.

PILOCARPINE.—By treating pilocarpine with fused potash, Chastaing obtained a volatile base which gave a precipitate with platinum chloride. This proved to be methylamine, and there was no evidence of the formation of any conicine. An examination of the residue seemed to show that, under the influence of the potash, the pilocarpine was split up into methylamine, carbonic anhydride, butyric acid, and traces of acetic acid.—*Weekly Drug News*.

MISCELLANY.

AUTOPSY OF GUITEAU.—From the official report of the post-mortem examination of Charles J. Guiteau, June 30, 1882, by Z. T. Sowers, M.D., and J. F. Hartigan, M.D., majority of the committee, which has been published in pamphlet form, we extract the following, as giving the best summary of the examination that has yet been published:

"The body being placed in position, it was found to be still warm, the eyeballs slightly protruding, limbs flaccid and well rounded by adipose tissue. It was that of a man five feet, five and three-quarter inches high, and weighing 135 pounds. The skin bore a yellowish tinge over the general surface. There was a slight discoloration on the left side of the face, and a brownish-red mark, made by the rope, was observed just above the thyroid cartilage, and extending about three-fourths around the neck, the knot slipping from the left to the back of the neck. There was phimosis and accumulation of smegma.

"Dr. Loring then made an examination of the eyes, as follows:

"The pupils were both slightly dilated, the dilatation in both being equal. The conjunctiva of left eye slightly congested. Vitreous hazy, with copper-colored reflex; fundus of both eyes undistinguishable. Two hours later: condition of eyes the same, with appearance of transverse fracture of both lenses. These appearances were due simply to strangulation. F. B. LORING."

"A longitudinal incision was now made by Dr. Lamb, with the view only of exposing the contents of the thoracic and abdominal cavities, as was understood by us. This incision extended from the top of sternum to the pubis, and showed adipose tissue to the thickness of about an inch. While this was in progress, Dr. Hartigan made a vertical incision through

the scalp, and sawing horizontally. The partially-detached calvarium remained in such position until Dr. Lamb had removed the lungs and heart, and cut through the great vessels. On dissecting back the flaps, a venous effusion was found in the right pectoralis major muscle near the second rib; the dome of the diaphragm reached up to the fourth rib; slight pleuritic adhesions were found, mostly in upper portion of each side. The pleuritic cavities contained a little serous fluid.

"Lungs.—Were slightly congested; a few small bodies resembling miliary tubercles, such as are commonly seen, were found in the middle part of left lung, near the outer external surface. Every other essential feature of both lungs was found normal. The lungs were then removed, and the heart was next examined.

"Heart.—This organ weighed 10½ ounces; was firm, and contained a soft clot just forming in the right ventricle; the left ventricle was empty. A large amount of fat was deposited on the entire anterior surface, and a villous patch, or old inflammatory spot, was seen on the left ventricle near apex; valves normal. There was slight atheroma at the beginning of the aorta, which could probably be accounted for by high living and confinement. More than two quarts of liquid blood, warm and free from clots, had now escaped into the chest-cavity from its various sources.

"Abdomen.—A large amount of fat covered viscera; stomach contained food; liver was congested, otherwise normal; gall-bladder contained a small amount of bile. The spleen was lobulated and enlarged; Malpighian bodies were quite prominent; the organ weighed fifteen ounces, showing the influence of previous malarial attacks while in jail. Other abdominal viscera normal; bladder contained about five ounces of urine. It may be proper here to remark that the deceased had an evacuation of the bowels and trembled perceptibly on the gallows before the drop fell, as we have since learned from the guard who pinioned his legs.

"Head.—When the foregoing was completed, the head was then proceeded with. The first thing noticed was a scar on the scalp an inch long, situated longitudinally just above and behind the left temple; but there was no corresponding mark upon the skull. The right parietal bone was slightly flattened in its upper and anterior part, covering about two inches square, and terminated at the coronal suture. This flattening was confined to the outer plate, and was at the expense of the diploic structure, as there was no bulging of the inner table immediately beneath that could be discerned. It was regarded of such a trivial nature as to make it unnecessary to take accurate measurement by transverse sections of the skull at this point, or to remove the skull to the Museum for more

minute examination, and it was buried with the remains. There were no other points of asymmetry noticeable.

"The cranial sutures were distinct. There was no visible trace of a frontal suture, the two halves of the frontal bone being thoroughly welded. On the inner surface of the skull the usual bony prominences were well marked, also the Pacchionian depressions. No abnormalities were discovered.

"The thickness of the skull was not measured, owing to the lack of facilities, but to the unaided eye it was normal. The diameters and cubic contents of the skull were not taken, nor the relative size of the fossæ, owing also to lack of facilities.

"Brain-Membranes.—The dura mater was quite strongly adherent in places to the inner surface of the skull, viz., near the trunks of the middle meningeal arteries, also near the longitudinal sinus in front, but could be stripped cleanly from the bone at all these points of attachment, as there was no roughening of the skull here or elsewhere. There was no exudation on any part of the inner surface of the dura mater. Quite a number of Pacchionian granulations were distributed along the course of the longitudinal sinus. The cerebral sinuses contained but little if any blood. The dura mater, pia mater, and brain were adherent to each other on both sides along a limited portion of the longitudinal fissure adjacent to the Pacchionian granulations.

"Arachnoid.—There were very well marked milky opacities of the arachnoid, but no apparent thickening, extending over the upper portion of the convex surface of the hemispheres only. As elsewhere, the membrane was perfectly normal. These opacities were confined to the upper portion of the sulci in this vicinity exclusively, and were such as are often found without previous history of disease. The sub-arachnoid space contained very little fluid; pia mater was easily stripped from all parts of the brain.

"The blood-vessels of the membranes and brain were empty, and the general appearance of the brain was anæmic, or bloodless. Both these conditions can be readily accounted for by the unfortunate removal of the lungs and heart and the severing of the large blood-vessels by Dr. Lamb before the brain or its membranes were exposed or examined, and on this account nothing of importance was attached to this condition, as the blood that was in the brain at the time the autopsy was commenced had an opportunity, at least, of making its exit into the chest-cavity.

"Sufficient examination was made of the large blood-vessels of the brain to determine that they were in a healthy condition.

"Brain.—The brain entire, with a portion of dura mater attached, weighed 49½ ounces, about the average weight for an adult male.

Just how much more it would have weighed had it not been drained of its blood, and had the scales been more delicate, we are unable to say, but certainly it is safe to assert that it would have been considerably more. The consistence of the brain was normal: its specific gravity, and measurements of its chords and arcs, could not be obtained, owing to lack of facilities. There was no apparent asymmetry of the two hemispheres. As regards contour and shape, exact studies were not made, and the comparative weights of the different parts were not obtained: cerebellum was well covered; the occipital lobes were not noticeably blunt or sharp.

"At this stage the autopsy was suspended, and the brain was removed by Dr. Hartigan to the Army Medical Museum, there to wait a more minute examination of its various parts.

"The remaining two members of the committee having proceeded to make the examination of the neck, it was found as follows: externally, a mark, as has been described. Both sterno-cleido-mastoid muscles were ruptured near their centre, also the thyro-hyoid membrane and muscle. The hyoid bone was not broken, nor the laryngeal cartilages. There was no fracture or dislocation of the vertebrae.

"Arriving at the Museum, and in the presence of the majority of those who were in attendance at the autopsy at the jail, the committee further proceeded to examine the brain as follows:

"*Lobes and Convolutions.*—Frontal lobes seemed well developed, but presented a peculiar appearance, due to the arched condition of the floor of the anterior fossæ of the skull.

"*Frontal lobes, left side.*—The first frontal fissure was quite long; it was broken by a single bridge, near the junction of the anterior and middle thirds. The secondary fissure was well marked, so much so that it seemed almost to form an independent primary fissure. The second frontal fissure was well defined, but interrupted by four small concealed connecting convolutions; it communicated with the first by a cross-fissure, and was not confluent with the præ-central fissure. The præ-central was well defined and not confluent. The convex surface of this lobe, as a whole, was marked with an unusual number of cross and other secondary fissures. It was not of a confluent type, but showed a marked tendency to the four-convolution type. The orbital surface showed a radiate orbital fissure, starting from a single central depression or fissure. There were five radiate fissures from this centre. The olfactory fissure showed nothing peculiar.

"*Frontal lobes, right side.*—The first frontal fissure was well defined, non-confluent, except that at its posterior extremity it communicated with a deep cross-fissure. The second

dary fissure was a typical one. The second frontal fissure was well defined and non-confluent.

"The orbital surface was well fissured. The orbital fissure branched off from a small isolated central convolution in seven different rays. The right frontal lobe had an unusual development of secondary fissures, like the left lobe.

"*Parietal lobe, left side.*—Fissure of Sylvius. —There was a partial confluence with the first temporal and also with the fissure of Rolando. In other respects it was normal.

"The fissure of Rolando was well defined and not confluent. The præ- and post-central convolutions, as well as the præ-central lobule, were large and well developed.

"The retro-central fissure was well defined, and separated from the inter-parietal by a small concealed connecting convolution.

"*Parietal lobe, right side.*—The fissure of Sylvius was normal on this side.

"The fissure of Rolando same as on the other side, except it extended slightly into the longitudinal fissure, fissuring the para-central lobule. The para-central lobule was quite small as compared with that on opposite side.

"The recto-central fissure was well defined, and confluent with the inter-parietal.

"*Left side, under surface.*—Island of Reil was well covered. Seven straight fissures and eight convolutions were present.

"The inter-parietal fissure began at retro-central, and ran a well-defined course, ending in the transverse occipital, from which it was separated, however, by a small convolution. It had no complete confluences.

"*Right side, under surface.*—The island of Reil was well covered, and five straight fissures and six convolutions.

"The inter-parietal fissure began in and was confluent with the retro-central. It was well defined.

"*Temporo-sphenoidal lobes, left side.*—The first temporal fissure was slightly confluent with the fissure of Sylvius, and was not so long as usual.

"On the basal surface the inferior temporal fissure was well defined and not confluent; fusiform lobule smaller than on opposite side.

"*Right side.*—First temporal fissure normal length, no confluences. On the basal surface the inferior temporal fissure was normal; it was incompletely confluent with the collateral fissure, which was well defined, but shorter than that on the left side.

"*Occipital lobes.*—The anterior occipital or Wernicke's fissure was present on each side; was well defined and non-confluent. The right transverse fissure was well defined, beginning on the mesial surface and passing out with two small interrupting convolutions. The left transverse fissure was well defined. Thus, of the three fissures which combine in apes to form the ape fissures, viz., the second temporal, the anterior occipital (Wernicke's),

and the transverse occipital, two were only normally defined.

"*Mesial surface, left side.*—Calloso-marginal fissure normal. Above this was a secondary fissure running parallel to it, and ending about opposite the termination of the first third of the corpus callosum.

"*On the right side.*—Calloso-marginal fissure was continued on through the præ-cuneus to parieto-occipital fissure, from which it was separated by a small convolution. The secondary fissure was more developed than on the other side, and extended farther back.

"*Interior of the brain.*—The anæmia and pearl-like appearance which existed might be readily accounted for by the thorough draining before alluded to. The gray cortex was of unusual thickness, notwithstanding the measurements necessary to determine this were taken about four hours after removal, while the brain was in a soft, almost creamy condition, due to the excessive heat of the day and much handling. Ventricles were empty.

"Cerebellum, pons, and medulla, so far as observed, presented nothing peculiar.

"In the preparation of the above report we are largely indebted to the notes of Drs. C. L. Dana and W. J. Morton, of New York City.

"Indeed, these notes were so full and complete, and so nearly in accord with our own views, that in some instances we have adopted them without change.

"We are also indebted to General John S. Crocker (warden of jail), for height, weight, and accident on the scaffold, as previously mentioned.

"In conclusion, we desire to state that we were not in accord with Dr. Lamb in the order adopted by him in the making of the autopsy. We did not object at the moment, for the reason that it had been agreed that he (Lamb) should do the cutting, and after this agreement we did not feel at liberty to interpose an objection at the very instant of beginning the work, with a number of gentlemen present by invitation to witness the operation. We thought then, and think now, that the brain should have first been opened and examined, instead of which the first incision made by Lamb was in the region of the heart; and when the thoracic cavity was laid open we had no idea that it was the intention of the operator to sever the large vessels, which must necessarily be cut in removing the heart, before the examination of the brain was had. The cutting of these vessels was the work of an instant, and was done before objection could be interposed. As hereinbefore stated, it was the severing of these vessels which caused the drain of blood from the brain, and left it in the anæmic condition it was found when examined."

RESOLUTIONS WITH REGARD TO MEDICAL LEGISLATION.—At the annual meeting of the Juniata Valley Medical Society, held at Crescon, Cambria County, Pennsylvania, July 18,

1882, the following preamble and resolutions, after free and full discussion, were unanimously adopted, viz.:

"*Whereas*, The Hon. J. D. Cameron, one of our Senators in the Congress of the United States for Pennsylvania, has introduced into the Senate a joint resolution, 'providing that it shall be a misdemeanor, punishable by a fine of five hundred dollars and dismissal from office, for officers of the United States government, civil, military, or naval, to make discrimination in favor of or against any school of medical practice, or its legal diplomas, or its duly and legally-graduated members, in the examination and appointment of candidates to medical service in any of the departments of the government,' therefore,

"*Resolved*, That this Society, representing the medical profession of the entire Juniata Valley, and largely that of Central Pennsylvania, regards said joint resolution of Senator Cameron as tending only to degrade and subvert the science and rational practice of medicine, and injure the public service.

"*Resolved*, That a copy of this action be forwarded by the Secretary to Senator Cameron, with a respectful request that he will not further favor or urge the passage of said joint resolution by the Senate.

"*Resolved*, That the Secretary furnish a copy of the foregoing to the *Medical News* and *Medical Times* of Philadelphia for publication."

WM. R. FINLEY,
S. M. ROSS,
CRAWFORD IRWIN,
Committee.

HARRY JACOB, Altoona, Pa.,
Secretary Juniata Valley Medical Society.

In referring to this same subject, Dr. Squibb, of New York, speaks of it as a result of the recent agitation by the newspapers of the so-called New York Code of Ethics. He remarks very pertinently, "This extension of the idea of civil and religious liberty to the poor and down-trodden irregulars of all 'schools' is certainly going farther than the framers of the new code intended; but it is really only what might have been expected as an outcome of their liberality and tolerance of error, for if there be no principle at stake, but only mere intolerance of school, then there should be no discrimination permitted. Free trade and unrestricted liberty means just that, whether it be in matter of life and death, in morals or in trade. Mr. Cameron might with equal wisdom and justice to the true interests involved have abolished the medical departments of the army and navy, and substituted for them five patent medicines whose joint advertisements should cover all the possible diseases, because this is really the most popular 'school' of all. Suppose Mr. Cameron's resolution sends on board a national vessel a medical man of the 'school' of homeopathy, for example, to practise his 'school' among

officers trained at Annapolis in accordance with established physical laws. They would not want to trust their lives to the practice of an irrational 'school.' Then what becomes of their civil liberties? They must simply submit and be doctored by joint resolution of Congress, or leave the government service to such as are not troubled by any principles, and who might, in common with a considerable portion of the unthinking community, prefer to be doctored by that 'school' whose medicines were pleasantest to the taste or most easily taken. But in the army and navy, unless there be an assortment of 'schools' supplied to each camp or ship, some people will run the risk of not having their choice of 'schools,' and not being able to turn from one school to another. That 'school' which owes so much of its popularity and success to the very superficial and irrational claim that it gives no nauseous medicines might not satisfy soldiers and sailors as well as it does some of the more imaginative people in civil life, and then the soldiers and sailors would be down-trodden and abridged of their liberties.

"In the Senate of the United States there can certainly be no danger that Mr. Cameron's chaotic resolution will ever be seriously considered, but that it was offered at all shows that even in some high places there is nothing like principle or law recognized as underlying or supporting the medical profession which should keep it from affiliation and admixture with mercantile empiricism."

THE CIRCULATION OF THE BLOOD.—The claims of Cæsalpinus to the discovery of the systemic circulation are fully refuted in favor of Harvey by Dr. George Johnson in the last Harveian oration. One of the recent advocates of the Italian's claim is Prof. Ceradini, who bases his statements upon the assumption that Harvey became acquainted with the true theory of the circulation while at Padua; yet he admits that Fabricius had not the remotest idea of a circulation of the blood. Dr. Johnson observes correctly, "If Cæsalpinus had given an intelligible account of the circulation through the systemic vessels, his fellow-countryman Fabricius, of all men, would have been the least likely to be ignorant of it." The word *capillamenti*, often employed by Cæsalpinus, instead of corresponding with the modern "capillaries," really meant the supposed termination of the arteries and veins in nerve-fibres, as anciently taught by Aristotle. The explanation given by Cæsalpinus of the filling-up of veins from below is partly metaphysical and wholly unintelligible, and gives evidence of his adherence to the popular idea of a different course of the circulation during the night from that during the day. Garbled passages from his writings, which are collated by Ceradini, show conclusive evidence of his ignorance rather than his knowledge of the circulation as afterwards announced and promulgated by Harvey.

AN ERROR IN DIAGNOSIS.—A man treated for eight months in a hospital for chronic dysentery went home without being relieved. Believing that he had piles, he applied to a physician, who found no evidences of hemorrhoids, but, being interested in the pathology of dysentery, proceeded to explore the rectum, in which he discovered a number of fibrous bands and the original cause of the tenesmus and colitis,—a piece of beef-bone impacted above the sphincter. Its removal gave immediate relief, and there was no further trouble.—*Dr. Hunter, in Practitioner.*

DEATH FROM CHLOROFORM.—At St. Bartholomew's Hospital, England, recently, a sober man, in robust general health, suffering from cancer of the lip, had chloroform administered to him in the usual way, by pouring about a drachm on a piece of lint, and allowing him to inhale it regularly and quietly; a stage of very violent excitement was followed by cardiac paralysis, and death occurred without further warning. At the autopsy, the only organ notably diseased was the heart, which was large and flabby and weighed thirteen and a half ounces; there was atheroma of the coronary arteries, but no evidence of further degeneration of the muscular substance, nor of valvular disease.—*Brit. Med. Jour.*, p. 23.

NOTES AND QUERIES.

THE Lehigh Valley Medical Association will hold its Second Annual Meeting on Wednesday, August 16, 1882, at eleven o'clock A.M., at the Court-House. The address of welcome will be delivered by E. G. Martin, M.D., Mayor of Allentown, Pa. Dr. J. Ewing Mears, of Philadelphia, will read a paper entitled "Observations on the Value of Modern Methods in Abdominal Surgery, with a Study of the Results in Twenty-Four Cases of Abdominal Section."

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JULY 23 TO AUGUST 5, 1882.

ELBRY, F. W., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months on surgeon's certificate of disability. S. O. 168, A. G. O., July 21, 1882.

MUNN, C. E., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for two months' extension when relieved by Acting-Assistant-Surgeon T. H. Pleasants. S. O. 147, Department of the Missouri, July 28, 1882.

SHUFELDT, R. W., CAPTAIN AND ASSISTANT SURGEON.—The leave of absence granted him in S. O. 92, April 21, 1882, from A. G. O., is extended one month. S. O. 176, A. G. O., August 2, 1882.

RAYMOND, H. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To proceed at once, with necessary attendants, from Whipple Barracks, *via* Fort Verde, to the scene of recent engagements with hostile Indians near General's Spring, and bring in those wounded to Fort Verde, and remain in charge of post-hospital there until further orders. S. O. 112, Department of Arizona, July 19, 1882.

HOPKINS, W. E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To proceed from Fort Adams, R.I., to Camp Washington, Gaithersburg, Md., and report to the Commanding Officer for duty. S. O. 132, Department of the East, July 31, 1882.

CARVALLO, CARLOS, CAPTAIN AND ASSISTANT-SURGEON.—Died at Winthrop, near Boston, Mass., on July 23, 1882.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 26, 1882.

ORIGINAL COMMUNICATIONS.

CONGENITAL CYANOSIS.

*Read before the Philadelphia County Medical Society,
June 21, 1882,*

BY J. T. ESKRIDGE, M.D.,

Physician to the St. Mary's and Howard Hospitals.

PETER M., æt. 11 years, born in Germany, was brought to this country when nine months old. So far as known, his relatives have not suffered from rheumatism or heart-troubles. His father and mother are well, and the remainder of their children are strong and healthy. Two aunts died of consumption, but none of his other relatives are thought to be phthisical.

Peter was apparently well at birth, but when about six months of age, soon after falling from a considerable height, which rendered him unconscious several minutes, his lips were noticed to be dark and his cheeks unnaturally red. Since the accident and the appearance of the cyanosed condition he has been liable to take cold on slight exposure. He has never shown much fondness for play, his movements always being slow. A constant headache (frontal), worse during warm weather, has been complained of since he has been able to locate the seat of pain. His appetite has been rather poor, his bowels irregular, and he has rarely been free from indigestion. When six years old he had whooping-cough, from which he suffered severely.

Dr. Strittmatter's attention was attracted by his blue appearance about the 1st of June of the present year, while extracting a tooth for his little brother at the dispensary of the St. Mary's Hospital. I first saw him with the doctor on June 6, 1882. His temperature was 102°; pulse 124, small and weak; respiration 32. He coughed considerably. His hands and feet were cool and of a dark-purple color. The last joints of the fingers and toes were greatly enlarged (clubbed). The nails were blue, very convex from side to side, and bent forward at the distal ends. The skin covering the enlarged ends of the fingers and toes was purple, smooth, and glistening. The superficial veins seen over the entire surface of the body, giving it a dusky hue, were most distinctly visible in the fingers and palms of the hands, enabling one to trace the smallest of these vessels from the very finger-tips. The pulse was weakest when his hands were elevated above his head. There was no perceptible venous pulsation nor any undue prominence of the carotids. After he had walked about the room a short time, or stood on his feet several minutes, the heart acted more rapidly, and occasionally lost a beat. The cardiac impulse was seen in the fourth and

fifth left intercostal spaces, over an area of about two inches' diameter. A pre-systolic thrill was felt near the apex of the heart in the fourth intercostal space. The area of cardiac dullness was greatly increased over both ventricles. When the heart was excited, two murmurs could be heard over the entire chest (front and back), but their seats of intensity were near the apex, the one just preceding the systole being located a little higher than the systolic one.

After the boy had been kept in the recumbent posture several minutes, the heart beat less excitedly, and the area over which the murmurs could be heard was lessened. When the stethoscope was now placed over the second right costal cartilage, a feeble systolic murmur, not transmitted into the carotids, was heard. The aortic second sound was feeble and unattended by a murmur. With the stethoscope over the second left costal cartilage, the systolic murmur was still very feebly heard, and the pulmonic second sound, also unattended by a murmur, was intensified and much louder than that at the aortic orifice. The systolic murmur was lost when listened for near the middle of the left clavicle. Over the third costal cartilages, and over the sternum on a line with these cartilages, a presystolic murmur, followed by one occurring with the systole of the heart, was heard. Both murmurs, when the heart was acting leisurely, as well as when the organ was excited, were loudest at or near the apex. The boundaries of the area over which the pre-systolic murmur could be heard were: a line drawn from the third right costo-sternal articulation to the right nipple; from this point to the base of the ensiform cartilage of the sternum; directly to the left from this portion of the sternum to a perpendicular line from the anterior border of the left axilla; thence to the third left costo-sternal articulation. The area of the systolic murmur was a little greater in every direction, and this murmur was also heard in the left axilla, and posteriorly at the lower angle of the left scapula, and between this shoulder-blade and the spine, opposite the spinous process of the former.

Some bronchial trouble was detected. He was ordered a fever-mixture, etc.

He improved, and one week later his temperature was nearly normal.

14th.—He felt better, but the cardiac dullness, now pyramidal in shape, was somewhat increased, indicating pericardial effusion.

19th.—Dullness was less marked. The urine had been twice examined, but no albumen detected. No change in the cardiac murmurs.

Temperatures.—Of mouth, 100.2°; right axilla, 99.8°; left axilla, 99.4°. Of chest: anterior and lateral surfaces, first intercostal space, R. 100.3°, L. 99.3°; fifth intercostal space, R. 99°, L. 99.1°; seventh intercostal

space, axillary region, R. 99°, L. 99°. Posterior surface, between spine and scapulæ, opposite spines of the latter, R. 99°, L. 100°. Signs of slight congestion of the apex of the right lung anteriorly, and of the left lung posteriorly, were detected.

Remarks.—Congenital cyanosis is interesting at this age, because of the near approach of the trying ordeal of puberty, to which most who have not died in early childhood usually succumb. The physical signs of cardiac malformations are interesting at all ages, on account of the great difficulty in making an accurate diagnosis. Besides, an autopsy reveals the true condition.

In this affection there is a tendency to an increase of the interstitial tissue of the viscera, and kidney-trouble may be expected in a fair proportion of cases, although none has, as yet, been detected in this boy.*

Flint and others state that about one-sixth of all suffering from congenital cyanosis, who live to the age of twelve years, die of consumption. It may be that the rise in temperature, and the congestion of the apices of both lungs, in the present instance, are associated with the deposition of tubercle.

Contraction at the pulmonic orifice, and deficient septa between the right and left cavities of the heart, are the most frequent cardiac malformations found in connection with congenital cyanosis in persons who have reached the age of ten or twelve years. Numerous malformations of the heart are occasionally met with. Some of these give rise to no symptoms, and others are so serious that an extra-uterine existence of more than a few days or weeks is impossible. Direct communication of the cavities of the right side of the heart with those of the left is usually associated with stenosis at the pulmonic orifice, the former condition being a little more frequently met with than the latter. Statistics warrant us in saying that in ten cases of congenital cyanosis, nine will be associated with imperfect septa of the heart; and in seven cases of the same character, obstruction at the pulmonic orifice will be present in six.†

* The urine has been examined almost daily since exhibiting the patient before the Society, albumen in a greater or less quantity being detected at the majority of the examinations. July 5, the urine contained twenty-five per cent. of albumen, and the microscope revealed a few hyaline and granular casts.

† Sansom's Physical Diagnosis of the Heart.

All authorities are agreed that cardiac malformations of sufficient gravity to give rise to well-marked symptoms are easy of diagnosis; and I believe that all are equally agreed that the problem of determining the particular character of the malformation is by no means an easy one. By some this is said to be, at times, almost impossible.

The physical signs of malformation (constriction) at the pulmonic orifice, as given by Flint, may be summed up as follows: an enlarged right ventricle, and a systolic murmur, with its seat of intensity at the base of the heart on the left side of the sternum, frequently limited to this situation, never propagated into the carotids, and at times associated with a diastolic murmur referable to the pulmonic orifice.‡ With reference to the physical signs of deficient septa of the heart, I quote from the same author: "Communication of the two ventricles through an aperture in the septum gives rise to a systolic murmur. A murmur thus produced will not be propagated either along the course of the aorta or pulmonary artery, and will have its maximum at or near the base of the heart. The passage of blood through an open foramen ovale probably rarely, if ever, gives rise to a murmur."

"In a case of imperfection of the inter-ventricular septum, the result of congenital deficiency of the operculum at the foramen ovale, Dr. Mayne found a loud *bruit de soufflet* accompanying the first sound, and localized at the sternal end of the left fourth costal cartilage."§

In pulmonary stenosis, Dr. Peacock|| says, "A loud systolic murmur will be heard in the præcordial region, and most intensely at the level of the nipple, and between that body and the sternum. It will be audible very distinctly in the course of the pulmonary artery, or from the base of the heart towards the middle of the left clavicle, and less distinctly in the course of the aorta, or at the upper part and right side of the sternum." He thinks the regurgitant current is generally too slight to generate a murmur, and adds, "The impulse of the heart is usually powerful, and frequently a distinct purring tremor may be felt over the situation of the pulmonic orifice." The same writer says, "An aperture in the septum of the

‡ Flint on Disease of the Heart, 2d ed.

§ The Heart and its Diseases, by Fothergill.

|| *Ibid.*

ventricles, without other malformations, would probably be attended by a murmur, caused by the flow of blood through the abnormal opening from the left ventricle into the right ventricle or auricle. The detection, therefore, of a systolic murmur at the base of the heart without signs of obstruction at the aortic or pulmonic orifice might lead to a suspicion that such a communication existed. This surmise would be strengthened if the murmur were not propagated in the course of the pulmonary artery or aorta."

Dr. Fothergill writes,* "My own observations extend no further on this matter than that where there are cyanosis and other evidences of cardiac malformation present, at times a murmur can be heard which is basal in locality, and systolic in time, not very loud in character, and which does not correspond with any of the systolic murmurs with which I am familiar."

"Dr. Markham actually maintains he has heard a loud murmur thus generated [through the foramen ovale]. In a slightly cyanosed child, aged four years, a rough systolic murmur, therefore coincident with the diastole of the auricles, audible about the heart's base and the left infra-clavicular region, indistinct below the nipple, scarcely to be caught at the heart's apex, loudly defined at both sides of the upper half of the interscapular space, seemed inexplicable, post mortem, except as the result of the struggle of the blood at an open foramen ovale. The communication from the right to the left auricle was sufficiently large to admit the point of the little finger; and there was no constriction of the pulmonary artery, nor any other condition of the heart, conceivably explanatory of the murmur."† Dr. Fox thinks the murmur ought to have been presystolic, and Dr. Walshe, agreeing with Fox, suggests that it might have been pre-systolic, and yet mistaken for a systolic one.

In carefully considering what has been written in regard to the physical signs of particular malformations of the heart, one is impressed with the fact that those who have the most thoroughly investigated the whole subject have the least confidence in their ability to make a nice diagnosis. If

this is the case in uncomplicated congenital malformations of the heart, no one can doubt that the difficulty is increased when the diseases of the heart incident to extra-uterine existence add other permanent lesions, which may give rise to endocardial murmurs, or modify those previously existing.

In the present case the murmurs in the heart could be accounted for by a recent attack of endocarditis, expending its force at the mitral orifice, but the cyanosed condition leads us to suspect a malformation, itself giving rise to the murmurs heard. In the light of the recent febrile condition, which developed and progressed some time while he was not under the observation of any physician, and in view of the fact that a pericardial effusion has taken place since he was first seen at the hospital, it is necessary that one should be guarded in an opinion in regard to the cause of the double murmur.‡ Excluding the idea that a recent endocarditis has developed the murmurs, what, then, would be the probable malformation that would give rise to the physical signs presented by this boy? Although there may be constriction at the pulmonic orifice, this is not the cause of the murmurs. It is found, as already stated, that the systolic murmur is scarcely audible over the second left costal cartilage, and that it is entirely lost when listened for in the direction of the pulmonary artery and near the middle of the left clavicle. Further, the sound ordinarily produced by the closure of the semilunar valves at the pulmonic orifice, in constriction faint or replaced by a diastolic murmur, is here greatly intensified. The right ventricle is apparently but little enlarged.

If imperfect septa of the heart are the cause of the murmurs, the exceeding infrequency of audible physical signs produced by directly communicating auricles points to the septum between the ventricles as the seat of the pathological condition, although theoretically a patulous foramen ovale best accounts for the presystolic murmur.

THE American Pharmaceutical Association will hold its meeting this year at Niagara Falls, commencing Tuesday, September 12, and adjourning on Friday or Saturday.

* *Op. cit.*

† Walshe's Treatise on the Diseases of the Heart, etc., 3d ed.

‡ Since exhibiting the patient before the Society, I have learned that he was carefully examined by a very competent observer some years ago, and that no cardiac murmur existed at that time, although cyanosis was marked.

**ONSOME UNFORTUNATE RESULTS
OF VACCINATION, ARISING PRIN-
CIPALLY FROM CARELESSNESS
IN COLLECTING AND PRESERV-
ING VACCINE VIRUS.**

*Read before the Philadelphia County Medical Society,
June 28, 1882,*

BY W. M. WELCH, M.D.,

Physician to Municipal (Smallpox) Hospital, Philadelphia.

WHEN vaccination is performed with strictly pure vaccine lymph, there are very few accidents or serious results that are at all likely to follow. Of course the inflammatory process may be aggravated by any injury of the vesicle, or by careless or reckless exposure of the vaccinated arm to long-continued cold and wet. In certain peculiarities of constitution, latent cutaneous diseases are sometimes brought to the surface; and in children having a very strongly marked scrofulous diathesis, enlargement, inflammation, and sometimes suppuration of the cervical or axillary glands may occur.

It is unnecessary to say very much in regard to the transmission of scrofula by vaccination, for the medical profession has never entertained the opinion that this affection can be communicated in this way. The complaints of parents that cutaneous diseases of this nature have been communicated to their children by impure virus are numerous, and arise chiefly, as Marson says, from their unwillingness "to believe that there is anything wrong with their offspring; and when other diseases follow, vaccination gets blame for what is really and truly due to other causes." Seaton, who has carefully inquired into this subject, and personally examined very many such alleged cases, writes, "I have never yet in a single instance found that the child from whom the lymph was taken was suffering from the disease which it was said to have imparted." Marson, after an experience of forty thousand vaccinations, West, Sir William Jenner, and many others of very large experience, bear testimony very emphatically to the same doctrine. On the contrary, it has been shown that vaccination instead of increasing really diminishes the tendency to scrofula, and also to pulmonary consumption.

The transmission of syphilis by vaccination is perhaps the accident most to be dreaded. That this is a real danger—one which at different times has been both very much under- and over-estimated—I firmly

believe. But, fortunately, the danger is not very considerable, even by the use of humanized virus, and can be almost wholly prevented by care. The very first step, however, towards avoiding the danger is to recognize the fact that it exists. To any one having doubts of the possibility of communicating syphilis by vaccination I would recommend, if not a careful study of the whole literature of the subject, at least a careful perusal of Mr. Hutchinson's very valuable and conclusive report, published in the fifty-fourth volume of the *Medico-Chirurgical Transactions*.

While it must be admitted that the two diseases have been occasionally transmitted to the same person at the same time, yet it is also a fact that the experiment of using variolous lymph from syphilitic subjects was made during the time when inoculation was in vogue, and has since been repeated with vaccine lymph, and has failed in both instances to communicate syphilis. It is therefore quite evident that the danger of inoculating syphilis is very small, and cannot be used as a valid argument against vaccination. Certainly the incalculable benefits of the latter much more than counterbalance the danger of the former, even though we were obliged to depend upon humanized virus. But, fortunately, the introduction of animal lymph, which is free from all possibility of syphilitic contamination, has had the effect of relieving the fears of the people, and enables us to answer fully and conclusively the only argument ever advanced by the anti-vaccinists that is at all worth considering.

Erysipelas has been known to follow vaccination under peculiar atmospheric conditions, or in persons having a strong predisposition to that disease, just as it sometimes follows the slightest abrasion of the skin; but its occurrence is more frequently the result of bad virus, or of gross carelessness or inexcusable ignorance on the part of the vaccinator or the propagator of the virus. A very striking exemplification of this fact was brought to light a number of years ago before a coroner's inquest, at Westford, Massachusetts, on three victims of malpractice of perhaps as shocking a form as could well be perpetrated in the name of vaccination. According to Dr. Martin, who was summoned to the inquest as an expert, the people of Westford became alarmed at the presence of one or

more cases of smallpox, and the selectmen of the town appointed two physicians as public vaccinators. The agent of the selectmen purchased from the city physician of Boston, for seven dollars, a quantity of vaccine virus taken from the arms of children. The virus was partly on quill slips, or "points," and partly in the form of crusts. It appears that it was entirely inert, as one of the physicians had used all his share without inducing vaccinia, or any other effect. The other physician, having three of the crusts for his share, had used one-half of one of them with the same negative results. But, probably before he had learned that the virus was inert, it occurred to him that he was using up his share too quickly, and at that rapid rate the whole town could not be vaccinated at the extravagant outlay of seven dollars. He therefore determined to adopt the method taught him by his preceptor, which was to break up the crusts, put the pieces into a bottle with a little snow-water (snow-water was insisted upon, because of its supposed purity), and whenever he wished to perform a "vaccination" he would shake up the bottle, dip his lancet in the mixture, and "vaccinate." He continued in this way for probably ten or eleven days, "vaccinating" during this time a fair share of the people, without any effect, either good or bad; but on the eleventh or twelfth day, when the bottle was opened, notwithstanding the "purity" of the snow-water, there was emitted a stench which in a moment pervaded the whole room. Still, however, he continued to use the putrescent mixture, vaccinating on that day twenty-five people, old and young. The result can readily be imagined. Sores resembling dissection-wounds, inflamed and erysipelatous arms, diffuse abscesses and systemic poisoning, at once ensued in more than half the cases. Three of the number least prepared to resist such blood-poisoning died very soon, with terrible symptoms and suffering, and some dozen others were only saved by most prompt and energetic treatment, and even some of these are said to have been left with maimed and useless arms. Of the remainder, only a very few were fortunate enough to escape quite free from injury.

A large number of medical experts were summoned as witnesses at the inquest, and very many of them could see nothing wrong in the virus or the method of using it, but

tried to maintain that these terrible results arose from a peculiarly bad state of constitution of those vaccinated. Others thought that there was a very decided malignity in the virus employed, but could see nothing whatever reflecting on the method of using it. The latter explanation is certainly too absurd to need comment; and to accept the former would be equivalent to saying "that *all* the bad, broken constitutions in Westford were vaccinated, by a most strange coincidence, on one day, while hundreds vaccinated during the previous eleven or twelve days, with the very same virus, presented no symptoms at all." This is simply preposterous. The truth was expressed in Dr. Martin's testimony, which was to the effect that these terrible results were clearly to be ascribed to the introduction into the system of a most virulent septic poison in the form of decomposing animal matter. He cited the world-famous experiments of Orfila, in which the lean of beef and mutton was cut up, mixed with water, and with this mixture animals were inoculated from day to day. He explained how this was continued for several days without any result whatever, but after a time, on a day perhaps corresponding to that on which the unfortunate results were set up at Westford, the inoculations were followed by precisely similar symptoms in the animals, and, as no treatment was used, death occurred in almost every instance. At length, after a large number of witnesses had been called, and had expressed great contrariety of opinions, in Dr. Martin's words, "The verdict of the jury was that the three Westford victims came to their death by the use of vaccine virus, originally bad, and rendered worse by an improper mode of employing it. It was, on the whole, a fair verdict, but the only 'badness' of the virus was its utter want of efficacy. The verdict should have been that animal matter, purporting to be vaccine virus, being used in a monstrously improper manner, had been the vehicle by which a most destructive and intense poison had been introduced into the circulation."

Unfortunate results quite similar to those just narrated occurred some years ago in the experience of one of the vaccine physicians of this city,—the only difference being that in this instance no deaths were known to have occurred. The facts may be stated as follows. During the month of June,

when the physician was performing from twenty to thirty vaccinations daily, he came in possession of some crusts (humanized virus was then used altogether) which he found to be particularly reliable, and very certain to "take" in every case,—a matter of considerable importance to a vaccine physician, for he is paid only for the successful cases. He was therefore desirous of making this virus reach as far as possible, and so he was very careful that none of it should be wasted.

The virus was prepared for use in the ordinary way, by pulverizing it between two pieces of glass of the size and shape of microscopic slides, and by adding sufficient water to reduce it to the consistence of cream. From this vaccinations were performed during the day, and whatever of the material remained unused by evening was allowed to remain on the glasses, which were placed together, rolled up in a piece of paper, and carried in the vest-pocket. When commencing operations the next day the material on the glasses, frequently still in a moist condition, was scraped together, a fragment of crust added, and the whole prepared as before. This practice was continued for several successive days, when at length, after, doubtless, very decided decomposition of a portion of the vaccine material had taken place, there were developed in a large number of the children "vaccinated" horribly sore arms, erysipelas, and other symptoms of septic poisoning. The parents of these suffering children, many of whom belonged to the lowest grade of citizens, were very naturally and justly enraged, and had they known the residence of the physician who was guilty of causing the terrible suffering of their children, possibly in this instance the coroner's inquest would have been held on the body of the *vaccinator*, instead of on the bodies of the vaccinees.

It should also be observed that a number of medical men familiar with all the circumstances connected with these unfortunate results last cited were quite ready to account for them in some other way, which, if true, would relieve the physician from all blame; but the physician himself was fully convinced that the results were clearly attributable to his own carelessness.

The evils of careless vaccination do not belong alone to our day and generation. Going back in the history of vaccination

in this country to the days of Waterhouse, the Jenner of America, one is struck with the gross carelessness and unpardonable ignorance which existed at that time, notwithstanding the precepts of Jenner, who was still living, and the repeated warnings and cautions of Waterhouse. The latter writes,* "But these repeated cautions were disregarded by the young and sanguine practitioner, who saw nothing but regular cases, little trouble, and great profits. If those whom it most concerns will not attend to what is written expressly for their information, they must alone be answerable for the consequences. There are cases where ignorance is converted into a crime."

As showing some of the evil consequences which resulted from ideas of extreme simplicity regarding the new inoculation entertained by some professional gentlemen, who even encouraged women and children to inoculate each other, the same writer says, "During this period—viz., the autumn of 1800—a singular traffic was carried on in the article of *kine-pock matter*, by persons not in the least connected with the medical profession,—such as stage-drivers, peddlers, and in one instance the sexton of a church. I have known the shirt-sleeve of a patient stiff with the purulent discharge from a foul ulcer, made so by unskilful management, and full three weeks after vaccination, and in which there could have been none of the specific virus,—I have known this cut up into small strips and sold about the country as genuine *kine-pock matter*, coming directly from me. Several hundred people were inoculated with this caustic morbid poison, which produced great inflammation, sickness, fever, and in several cases *eruptions*, with a greater disturbance of the system than what occurs in the true disease. It is worthy of remark that I could not influence these people to believe that they had *not* passed through the true disease, and that they were *not* secure from the smallpox. So true it is that a man need not despair of making the common people believe anything *but* TRUTH! That vagrant quacks should stroll about the country inoculating for half a dollar a head, and some for less, is not quite so surprising as that they should, in such a country as ours, find people weak enough

* Waterhouse, Progress of the New Inoculation in America.

to receive it from such hands! This imprudence ought not, however, to be attributed to the common people alone. Many young practitioners in country villages come in for a share of it. Not a few first inoculated themselves, and then others, without having read more than the newspaper publications, and some not even those, and were looking out for eruptions and foretelling appearances and symptoms that are never attached to the disease; and if any very disagreeable occurrences arose in the course of this imprudent practice, the odium reverted to me."

Waterhouse also describes a terrible catastrophe which occurred at Marblehead, Massachusetts, in the nature of a variolous epidemic, the result of a most careless and reckless use of virus taken from a vaccinator whose vaccinia was complicated with variolous pustules. As a result of this careless selection of virus the citizens of the town were not only afflicted, but enraged,—“afflicted because those near and dear to them were in the grasp of the destroyer, enraged because the professional brethren of Waterhouse had informed them that their affliction was but a legitimate result of the new-fangled inoculation which Waterhouse had so ardently taught.”* Notwithstanding the embittered feeling against him, Waterhouse visited the afflicted people, thoroughly investigated everything connected with the unfortunate circumstance, and by his clear and accurate explanation so fully convinced the people that the disaster was not the result of true vaccination as he taught it, but rather the result of carelessness or ignorance on the part of the vaccinator, that they, it is said, accompanied him homeward with thanks and honor, and cordially invited him to visit their town again.

The result of all this want of care in vaccination, and of an imperfect knowledge as to the proper time of collecting and the best method of preserving the vaccine lymph, was such extreme deterioration of the virus that it lost its power of inducing true vaccinia in less than a year from the time it was first introduced into the country. Waterhouse himself was for a while at a loss to account for this rapid and very general deterioration of the virus. At first he thought it was because the

virus became milder as it receded from the cow; but this explanation would not hold good, for instead of being milder its action was often very much more severe. Various explanations occurred to him, but none of them were satisfactory. In his perplexity he writes, “But endless are the doubts, whims, and fears while wandering through a perplexed path.

“At this gloomy period of the business I wrote to my correspondents in England for a fresh supply of the vaccine virus, and gave out that the present season was less favorable to the inoculation than the spring. I gave Dr. Jenner a minute history of the whole transaction, and begged him to explain this *deterioration*, as I conceived, of the virus; for I wish not to conceal my own perplexity at this period. This worthy man answered that he had heard of our disasters, and that in his anxiety he had longed for the powers that a mortal ought not to aspire at,—nothing less than a *speaking-trumpet* that would carry these words on the rapid wings of the wind across the wide ocean that divides us: “*Take the virus before the efflorescence appears.*”

Along with this advice Waterhouse received from Jenner, Lettsom, and others, of England, a “second importation” of virus, which he promptly used, with the happiest result. The difference between the typical vaccinia induced by this virus and the spurious disease produced by the old, improperly-collected and badly-preserved virus was very striking. On this point Waterhouse says, “With more information and a fresh supply of active virus, I recommenced my inoculations in March, 1801, and rejoiced to find the distemper possessing very genuine characteristics. It proceeded like my first cases in my own family, slowly, mildly, and pleasantly. I now reinoculated all the doubtful cases within my reach, and several of my patients expressed surprise that the distemper, which I now pronounced the *genuine* one, was so much milder, both as it regarded the sore arm and the constitutional symptoms, than the disease they underwent the autumn before, which I had pronounced *spurious*. But so it was. All those cases where there were violent inflammation, deep-seated ulceration, eruptions, and heavy febrile symptoms, were not the true kine-pock, but a malady generated by an highly acrid, putrid matter; or, in one word, poisonous matter, taken

* Jefferson as a Vaccinator, by Henry A. Martin, M.D., North Carolina Medical Journal, January, 1881.

from under a scab, or from an open ulcer, long after the specific virus was annihilated."

Such, then, were some of the innumerable annoyances and disasters which followed the careless use of vaccine virus in the earliest history of vaccination. It was this carelessness on the part of vaccinators that led Jenner to repeat over and over again, with much ability and eloquence, the necessity of observing certain care in collecting the virus. Departure from Jenner's "Golden Rule" has ever been the fertile source of an incalculable amount of evil. There is good reason to believe that most, if not all, of the bad results from bovine virus, now so generally complained of throughout the country, are due either to the virus having been collected at the improper time, or to the use of crusts, or some vaccination compound made from them, originally bad, and made worse by age. On this subject, it is elsewhere said,* "The frequent occurrence of severe inflammation, ulceration, and even erysipelas, at the seat of insertion of bovine virus, clearly indicates that much of the virus in use has not been propagated with sufficient care and skill, for such results are not produced by pure animal lymph. . . . In times of extraordinary demand for vaccine virus, such as we have just experienced, it is altogether probable that ignorant and unprincipled producers, who follow the specialty as a mere trade, make use of animals which will yield the greatest possible quantity of virus, having no regard for its quality, except that it must be sure to 'take,'—i.e., make a sore arm. Again, if the animal after inoculation be not properly cared for, and be allowed to lie down in wet and filth, the vesicles are very apt to be associated with an inordinate amount of inflammation. Virus collected under such circumstances is very liable to contain inflammatory products, and must frequently give rise to undesirable results in the human subject. . . . It is obvious, therefore, that it is not only important that the animals should be kept in clean and well-ventilated stables, and the inoculated surface sedulously guarded against the irritating influence of decomposing stable debris, but that the virus should be collected at the proper time, and particu-

larly before the vesicles have reached too late a stage of development. It is very probably true, as elsewhere stated, that up to a certain stage 'the unbroken vesicle contains no superadded products, and will convey cowpox uncomplicated. Later, when granular and pus cells appear, and, above all, when the ruptured vesicle becomes the seat of septic and other bacteria, the virus cannot be sent out with the same confidence.'"

I have time only to refer to a few of the many instances of bad results from the use of "bovine virus" which have come to my knowledge through medical journals, private correspondence, etc. Dr. D. I. McMillan,† of Sunbeam, Illinois, reports quite a variety of curious effects from the use of "bovine virus" obtained from a reliable house in Chicago, "a firm that only deals in first-class goods." The effects consist mainly of large and deep ulcers on the arm, active inflammation, copious eruptions, severe constitutional symptoms, and convulsions. Another physician says that "about one in ten of all vaccinated have bad arms, with a high grade of fever, and an eruption resembling that of *rötheln*, or German measles." The remark is occasionally heard among those who suffered, "I would rather have the smallpox than be vaccinated."

Dr. T. M. Rogers, of Fairfield, Illinois, says,‡ "In the last few weeks almost nine-tenths of our community have been vaccinated, and mostly by bovine virus. We first used points and quills, but, being expensive and, we found, rather uncertain, we sent to New York for bovine crusts. These have been used by a number of physicians in this town and vicinity. As a result, in many instances, whole schools have been broken up for from one to four weeks on account of the severity of the virus; the vaccinated arms were swollen from the shoulders to the tips of the fingers, and presented dark-red, sometimes almost black ulcers, from one to one and a half inches deep, and from two to three inches in diameter, which proved difficult to heal; these often occurred in apparently healthy persons, both old and young. Those who had typical scars were not exempt, but did not suffer so severely, and the disease usually ran a much shorter course. I would be glad to know if this has been the ex-

* Medical News, May 13, 1882: "The Medical News Commission on the Management of Vaccine Farms and the Propagation of Bovine Virus."

† Medical News, March 18, 1882.

‡ *Ibid.*

perience of others. Physicians here have had a similar experience."

Through the courtesy of Dr. Levis, I have recently seen a letter written May 20, 1882, by a physician of Karthaus, Pennsylvania, in which he says that about two months ago a case of smallpox occurred about seven miles from his residence, and as most of the citizens had never been vaccinated, he concluded he would give them the benefit of vaccination. He wrote to a very reliable drug firm of Philadelphia, requesting a supply of bovine virus in the form of *crusts*. They were duly received, and he began vaccinating April 22, and continued until May 10, when he concluded that the virus was not pure, for, instead of producing true vesicles, it gave rise to phagedænic ulcers, eating out the integuments of the arm nearly to the bone, and causing severe constitutional symptoms in some cases, and in others typhoid symptoms to such an extent that their lives were in great danger. The "vaccinated" arms swelled from the shoulder to the hand, and in one case an abscess occurred in the axilla four weeks after the "vaccination" had been performed. The ulcers spread to the size of a silver dollar, though the place of insertion of the virus was about as large as a silver three-cent piece. Diphtheria of a malignant form occurred in several families, and always among those who were vaccinated. In one family, two cases out of three died. There had been no diphtheria in that part of the country for several years; and, so far, it has occurred only among those who were "vaccinated." In many cases there was an eruption all over the body similar to rubeola. The patients were left in an anæmic condition.

Very serious results have also been known to follow the use of a patented vaccination compound known as "cones." Dr. T. S. Hopkins, of Thomasville, Georgia, writes,*—

"Our town authorities have employed a physician to vaccinate all persons presenting themselves for the purpose. The 'virus' was furnished by the town, and procured from the New England Vaccine Company, Chelsea, Massachusetts, as 'bovine matter.' The result has been fearful. Nearly every one vaccinated has suffered severely from erythema or erysipelas, the arm swollen

from shoulder to wrist, and the point of puncture presenting the appearance of a sloughing ulcer, discharging freely sanious pus. Many of the cases have been confined to bed with high fever from five to ten days, requiring the constant application of poultices to the arm, and the free use of morphia for the relief of pain. It is rumored that the National Board of Health intends to distribute vaccine matter through the country. I deem it my duty to inform you of the result here from the matter used, and *from whence* it came. It came in 'cones' said to contain (each cone) enough to vaccinate one hundred persons, at a cost of one dollar per 'cone.' It 'takes' in all cases, regardless of previous vaccination as shown by well-pitted mark, and the inflammation begins frequently on the second day. Those who have tried it tell me they would much prefer to have smallpox."

Dr. Snively, of Brooklyn, who reports the case of Chief-Engineer Whittaker, U.S.N., who took erysipelas about two weeks after being vaccinated and died, informs me that the vaccination was performed from one of the "patented cones." Dr. Kershner, of the Navy, who originally had charge of the case, expresses a doubt about the erysipelas being caused by vaccination, but adds, "but had the vaccination not been there he might have escaped the disease. I have had no other cases, but the Powhatan, lying near us, had one fatal case some weeks ago."†

There are other forms of so-called "preserved vaccine" used in some other countries which have given rise to serious results. In Italy the plan has been tried of cutting out the "pustule" (vesicle), placing it between two thick glasses, one having a small concavity for its reception, and thus sending it to distant places for use. This method is no longer practised: the sad occurrence at San Quireio gave it a fatal blow. "Thirty-eight children, vaccinated in the heat of summer by means of similar fragments of flesh, which, by the testimony of the vaccinators themselves, exhaled an abnormal odor, were seized with eclampsia and extensive phlegmonous inflammations, and many of them died." At Milan the plan has been adopted, by M. Nobli, of excising the "pustule" on the sixth or seventh day,

* National Board of Health Bulletin, March 4, 1882.

† The Proceedings of the Medical Society of the County of Kings, April, 1881.

fixing it with a pin to a piece of wood, with the bleeding surface downward, and scraping off the parenchymatous structure, to which are added some drops of glycerin; the mixture thus made is preserved in close vessels, in a refrigerator, and sold. Warlamont has used this material, and says, "Whether in the calf or in the infant, the insertion of this matter, rich in animal particles, nearly always gives rise to phlegmonous and eczematous pustules. Inexperienced vaccinators think these to be 'splendid pustules:' we consider them to be of bad quality, and their evolution is frequently accompanied by inflammatory complications."

All careless and faulty methods of collecting and preserving vaccine virus cannot be too strongly condemned, since they tend to bring vaccination unjustly into disrepute. When bovine virus is to be purchased, it is not enough to know that the material offered for sale bears that name: inquiry should always be made in regard to the *special knowledge*, and the *reliability*, of the producer. With but little care, it is possible to obtain from competent propagators animal lymph of the highest degree of excellence, without having recourse to bovine crusts, "Roman pustules," "Milanese vaccine," or the "patented cones."

1214 FAIRMOUNT AVENUE.

THE EVIL EFFECTS OF THE NASAL DOUCHE.

Read before the Philadelphia County Medical Society, June 28, 1882.

BY CARL SEILER, M.D.,

Lecturer on Diseases of the Throat at the University of Pennsylvania; Chief of the Throat Dispensary at the University Hospital, etc.

SEVERAL years ago I read a paper before this Society in which I pointed out the proper manner of using the nasal douche so as to avoid some of the ill effects which may be produced by this instrument. Since then I have given the matter close attention, and have found that the nasal douche, both anterior and posterior, is in many cases of nasal disease a most dangerous instrument to place into the hands of the patient. If we examine the current medical literature, we will find a number of cases reported in which diseases of the middle ear, inflammation of the mucous membrane lining the frontal sinuses, meningitis, and even death, were caused more

or less directly by the nasal douche; and I have myself seen several cases of acute otitis media caused by water from the douche entering the Eustachian tube.

The question then arises, Shall the nasal douche be used at all, and, if so, how shall it be used, and in what class of cases? To answer these queries is the object of my communication.

In the first place, let me reiterate what I said in my former communication,*—viz., that the nasal douche is one of the best means of cleansing the nasal cavities, and that it can be used in many cases without fear of evil consequences, if the proper precautions are observed. These precautions are—1, that the liquid should be of the temperature of the body; 2, that it should be of the same specific gravity as the serum of the blood, a liquid easily obtained by dissolving an even teaspoonful of common table-salt in a pint of water; 3, that the bottom of the vessel should not be elevated above the forehead of the patient using it, for if the vessel is held higher the force of the liquid becomes so great as easily to find its way into the cavities contiguous and communicating with the nasal cavities; and, 4, that while the water flows through the nasal cavities the patient should abstain from swallowing, because during the act of deglutition the mouth of the Eustachian tube is momentarily opened, thus allowing the fluid to enter the middle ear.

More important, however, than the above precautions, is the proper selection of cases. A glance at the mechanical arrangement of the nasal cavities will show us that a stream of water thrown up through one nostril passes into the post-nasal cavity, and, being prevented from passing into the lower pharynx by the soft palate, which is raised, will flow out through the other nostril. If, as is so frequently the case in nasal catarrh, the nostrils are more or less obstructed by deviation of the septum, exostosis or *echondrosis* of the septum (if I may be allowed to coin a word to designate the localized thickening of the cartilaginous portion of the septum), or by anterior or posterior hypertrophies of the erectile tissue covering the turbinated bones and by polypi, the easy outflow of the fluid is prevented, it accumulates in the post-nasal cavity, and is forced into the middle ear, the frontal sinuses, and

* Transactions of the Philadelphia County Medical Society, 1879.

even into the antrum, giving rise to inflammation of the mucous membrane lining these cavities. It frequently occurs that the hypertrophies act as valves, allowing the fluid to pass up, but prevent it from flowing out again. This is especially noticeable in cases of posterior hypertrophies, which, being attached to the turbinated bones by a sort of pedicle, are forced by the inflowing current into the post-nasal cavity, thus making room for the liquid to pass in, but are tightly wedged into the nostril by the return current, and prevent any outflow.

In cases where the tissue is not sufficiently hypertrophied to cause an obstruction to the current of liquid from the nasal douche under ordinary conditions, it will swell up and cause obstruction when an acute congestion is present, or if the fluid used is too cold or not of the proper density. The same objections hold good when the post-nasal syringe or douche is used, for an obstruction in the nostrils also causes in this case an accumulation of liquid in the post-nasal cavity.

It will therefore be seen that the nasal douche should be used only in those cases of nasal disease in which there is no obstruction in the nostrils, but where there is an accumulation of secretion which, becoming inspissated, gives rise to the fetid odor noticed in ozæna. A copious stream such as can only be obtained from the anterior or posterior nasal douche is needed to remove the dried crusts and thoroughly cleanse the nasal cavities, and I am in the habit of adding some soda or borax to the solution of salt and water, because I have found that an alkaline solution dissolves and dislodges the crusts more readily than a neutral one. The amount of salt should of course be reduced in proportion to the addition of the alkali.

CHLORAL IN BELLADONNA-POISONING.—In the *Lancet*, Dr. Protheroe Smith reports a case of belladonna-poisoning from inadvertence, the dose being from half an ounce to an ounce of the liniment, which was taken at 5 A.M. The lady was seen at 9 A.M., and a mustard emetic caused free vomiting. She was treated with opium, stimulants, and food. Next day, at 11 A.M., she remained still incoherent, restless, but with a fuller pulse. At this time half a drachm of chloral hydrate was given. In half an hour she regained consciousness, and, after enjoying a refreshing night's rest, was next day quite well.

THE PATHOGENESIS OF SECONDARY TUMORS.

BY HENRY WILE, A.B., M.D.,

(Continued from page 774.)

CHAPTER IV.

TRANSPLANTATION OF NORMAL TISSUE.

SIMULTANEOUSLY with the transplantation of tumor-particles, a series of thirty-eight transplantations with normal tissue was carried on, in order to discover the fate of such transplanted particles, to see whether they would continue to grow, or whether they would be absorbed after a certain time, as is asserted by some distinguished observers. Thus, should the experiments show that these particles of normal tissue continue to grow and develop in a manner similar to transplanted tumor-particles, it would throw light upon the question whether tumors grow by virtue of specific properties residing in the cells, or whether they grow by virtue of ordinary cell-life.

From the table given on the following two pages it will be seen that thirty-eight experiments were performed with normal tissues, after the manner described in Chapter I., and that out of these thirty-eight sixteen yielded positive and twenty-two negative results.

The emboli put into the jugular vein were found, at the autopsy, in the lungs,—*i.e.*, in positive results. If inserted in the right jugular vein, the emboli, with few exceptions, were found in some one of the right lobes of the lung; if in the left vein, they were found on the left side. This observation, though not pertinent, is interesting to record, as it would seem to indicate a division in the current of blood. Most of the emboli were found on the surface of the lobes, and seem to have been forced to that position by the pressure of the blood. Some of them found their way to the very edge of the lobes. Microscopically they were sharply circumscribed, and projected somewhat from the surface of the lobes in the form of nodes. The experiments are of different duration, and the emboli thus present differences in size and outline. Thus, the experiment of nineteen days' duration shows a thin lamella of bone, while the experiment of thirty-three days shows already a distinct small centre of ossification.

No. of Experiment.	Date of Experiment.	Kind of Animal used.	Substance introduced.	Where introduced.	Duration of Experiment, in Days.	Result of Experiment.
1	1881. Jan. 10 to Jan. 30.	Large white dog.	Periosteum taken from left radius.	Right external jugular vein.	20	Adhesions were found between the inferior lobe of right lung and the chest-wall, together with marked congestion of the same lobe, which indicated a previous inflammatory process. Nothing could be found of the embolus. Result negative.
2	Jan. 30 to March 4.	Small black dog.	Periosteum taken from left radius.	Right external jugular vein.	33	Found small hard nodule in right inferior lobe, on the surface and near the middle of the lobe. Specimen under the microscope showed bone-tissue. Result positive.
3	Feb. 8 to Feb. 28.	Large white and brown dog.	Periosteum taken from left radius.	Right external jugular vein.	20	There was no trace of the periosteal embolus, and everything about the lung had a normal appearance. Result negative.
4	Feb. 10 to April 1.	Small brown dog.	Periosteum taken from left radius.	Right external jugular vein.	50	Found nodule in right inferior lobe, on posterior surface, about the middle of the lobe. The nodule was cut without maceration, and under the microscope revealed the structure of bone-tissue. Result positive. See Fig. 5.
5	Feb. 15 to March 19.	Small yellow dog.	Periosteum taken from left radius.	Right external jugular vein.	32	The embolus was nowhere to be found. The lungs were normal. Result negative.
6	Feb. 26 to June 6.	Large brown dog.	Periosteum taken from left radius.	Right external jugular vein.	100	The lobes of the lungs were the seat of many infarctions and scattered centres of ossification. In the left superior lobe was especially one large centre of ossification. Four of the many centres were cut, and, being examined under the microscope, proved to be true bone-tissue. Result positive.
7	March 1 to June 1.	Small bitch.	Periosteum taken from left tibia.	Right external jugular vein.	92	No trace of the embolus could be discovered. Result negative.
8	March 5 to April 11.	Large white poodle dog.	Periosteum taken from right tibia.	Right external jugular vein.	37	Found one small bony nodule situated on the anterior surface of the right middle lobe. Specimen under the microscope proved to be bone-tissue. Result positive.
9	March 24 to June 6.	Large white bitch.	Periosteum taken from right tibia.	Right external jugular vein.	74	Nodule found on surface of right inferior lobe. It was firm and resisting, measuring about 3 mm. ($\frac{1}{4}$ in.) in diameter. On section, proved to be bone. Result positive.
10	April 1 to June 3.	Medium black dog.	Periosteum taken from right tibia.	Right external jugular vein.	63	No trace of the embolus, and everything about the lung seemed normal. Result negative.
11	April 11 to April 30.	White dog (spitz).	Periosteum taken from right tibia.	Right external jugular vein.	19	Found small nodule on the anterior surface of right middle lobe. The specimen, examined microscopically, shows structure of bone. Result positive.
12	April 12 to June 4.	Small brown dog.	Periosteum taken from right tibia.	Right external jugular vein.	53	No trace of the embolus could be found. Result negative.
13	April 13 to May 24.	Black-and-white coach-dog.	Periosteum taken from right tibia.	Right external jugular vein.	41	No trace of the embolus could be found. Result negative.
14	April 19 to June 2.	Medium black dog, shaggy hair.	Periosteum taken from right tibia.	Left external jugular vein.	44	No trace of the embolus could be found. Result negative.
15	April 21 to May 25.	Small black-and-tan dog.	Periosteum taken from left tibia.	Left external jugular vein.	35	Nothing abnormal could be found about the lungs. Result negative.
16	May 4 to May 19.	White spitz dog.	Periosteum taken from left tibia.	Left external jugular vein.	15	Result negative. The embolus could not be found. Probably arrested somewhere in the heart.
17	May 21 to June 8.	Small brown bitch.	Periosteum taken from left tibia.	Left external jugular vein.	18	Result negative.
18	May 19 to June 8.	Large Newfoundland dog.	Periosteum taken from right tibia; also particle of skin.	Right external jugular vein.	20	Result negative.
19	May 20 to June 9.	Small black bitch.	Periosteum taken from right tibia.	Right external jugular vein.	20	Result negative.
20	Sept. 7 to Dec. 6.	Small black-and-tan dog.	Periosteum taken from left tibia.	Left external jugular vein.	70	Found small resisting nodule on surface of right superior lobe of lung. Section revealed true bone-structure. Result positive.
21	Oct. 1 to Nov. 15.	Small black-and-white dog.	Periosteum taken from left tibia.	Left external jugular vein.	45	Found nodule on surface of right inferior lobe of lung. Result positive.
22	Oct. 19 to Dec. 28.	Small black bitch.	Periosteum taken from right tibia.	Right external jugular vein.	70	Result negative.

No. of Experiment.	Date of Experiment.	Kind of Animal used.	Substance introduced.	Where introduced.	Duration of Experiment, in Days.	Result of Experiment.
	1881.					
23	Oct. 19 to Dec. 21.	Small yellow bitch.	Periosteum taken from right tibia.	Right external jugular vein.	63	Result negative. No trace of embolus.
24	Oct. 22 to Dec. 21.	Large yellow bitch.	Periosteum taken from right tibia.	Right external jugular vein.	50	" " " " "
25	Oct. 26 to Dec. 21.	Large gray dog.	Periosteum taken from right tibia.	Right external jugular vein.	56	Found resisting hard nodule on surface and edge near apex of right middle lobe of lung. Result positive.
26	Oct. 29 to Dec. 18.	Large black bitch.	Three fragments were introduced.	Right external jugular vein.	50	The animal died of hydrophobia, having been bitten by another dog. It died five days after manifestation of first symptoms. Three nodes were found, besides many scattered centres of ossification. Two of the principal nodes were on surface of right middle lobe, and the other was on the surface of right superior lobe. The two lobes are preserved in alcohol. Result positive.
27	Nov. 1.	Small black-and-tan dog.	Fragments of skin, the dead epithelium having been scraped off.	Right external jugular vein.	...	The dog escaped seven days after the operation.
28	Nov. 4 to Dec. 24.	Small black-and-tan dog.	Skin with horny layer scraped off.	Right external jugular vein.	50	Result negative.
29	Nov. 9 to Dec. 30.	Large black dog.	Skin with horny layer scraped off.	Right external jugular vein.	51	The embolus was found in the right superior lobe of lung near the periphery, encysted in a blood-vessel. It had increased in size, and did not exhibit any retrograde changes. Result positive.
30	Nov. 12 to Dec. 28.	Small black dog.	Periosteum taken from right tibia.	Right external jugular vein.	46	Result negative.
31	Nov. 12, 1881, to Jan. 2, 1882.	Small black-and-tan bitch.	Periosteum taken from right tibia.	Right external jugular vein.	51	Scattered centres of ossification on the surface of all the lobes of the lung. They presented a glistening appearance, and to the touch were firm and resisting. The right middle lobe is preserved in alcohol. Result positive.
32	Nov. 30 to Dec. 24, 1881.	Small black-and-tan dog.	Periosteum taken from right tibia.	Right external jugular vein.	24	Result negative.
33	Dec. 3 to Dec. 17, 1881.	Large black bitch.	Periosteum taken from right tibia.	Right external jugular vein.	14	Found nodule in left inferior lobe of lung. Result positive.
34	Dec. 6 to Dec. 20, 1881.	Small black-and-tan dog.	Periosteum taken from right tibia.	Right external jugular vein.	14	Found nodule in right middle lobe of lung. Result positive.
35	Dec. 10 to Dec. 24, 1881.	Small white bull-dog.	Periosteum taken from left tibia.	Left external jugular vein.	14	Found nodule in right superior lobe of lung. Result positive.
36	Dec. 10, 1881, to Jan. 7, 1882.	Small white-and-yellow dog.	Periosteum taken from left tibia.	Anterior chamber of left eye.	34	After two days the cornea became opaque. A keratitis followed, and the aqueous humor of the anterior chamber became replaced by some new-formed apparently organized material. Result negative.
37	Dec. 21, 1881, to Feb. 2, 1882.	Small black-and-tan dog.	Fragments of unstripped muscular tissue taken from cervix uteri. Removed by Dr. W. Goodell.	Right external jugular vein.	42	Found nodule in right inferior lobe of lung. It had increased in size, and did not show any retrograde change. Result positive.
38	Dec. 23, 1881, to Jan. 28, 1882.	Large black dog.	Fragments of unstripped muscular tissue taken from cervix uteri. Removed by Dr. W. Goodell.	Right external jugular vein.	36	Negative result.

The ossification always taking place from the proliferating or internal layer of the periosteum, it naturally followed the line of that layer, which was in many cases tortuous, for, as the periosteum was being

swept along through the blood-vessels, it became rolled up and twisted. This accounts for the twisted appearance of some of the nodules. In the next chapter the microscopic details will be considered.

A VISIT TO GHEEL.

[AN esteemed friend sends us a few extracts from a private letter, embodying personal observations and impressions of the insane colony at Gheel, which are of considerable interest. They were made by an American physician upon the spot, and our correspondent vouches for their fidelity.—ED. *Medical Times.*]

THE guide was a sort of troublesome necessity, as the people could have refused us entrance if so disposed, and I doubt whether wholly reliable, as, for instance, in the morning being asked concerning illegitimate children, he said, "One in four years;" in the afternoon, in answer to the same question, he said, "One in two years." Likewise, in the morning, "accidents never happened;" later in the day he remembered of one child being killed by a patient who was taking care of it, one born was burned, one patient assisting in loading hay put his fork into a man and attempted to toss him up, the injury proving fatal. These things made me a trifle sceptical concerning the utter absence of accidents. Concerning melancholics, nothing could be elicited further than that, like the homicidal, they were sent to Bruges. The physician in charge directed to have us taken into the least populous third of the colony and the newest portion; but if the remainder is worse than that which we saw, as one might infer, I am sorry for Belgium. The weather was rainy, and so we found the people mainly at home, and took their landlords by surprise, and, taken as a whole, it reminded me of an early visit around a hospital before things could be put in order. In the best houses we found beds made up and things in order; in the majority it was the reverse. Patients of one sex only are allotted to a family; their rooms must be a brick structure, usually an addition,—a sort of lean-to against the cottage, averaging $6 \times 8 \times 6$ feet; ground-floor well paved with brick,—therefore no wooden floor; windows 2×2 feet, barred, and a sort of a cat-hole on a level with the floor, for ventilation and the escape of scrub-water. The beds were generally box arrangements with straw, covered with a sheet; in other cases, an ordinary straw tick and sheets and blankets, coarse but sufficient. They are locked in at night.

What I have to say applies to people in the farm-houses, having visited only a few houses in the town. The fare very usually

is the ordinary black bread and coffee (chicory) for breakfast, boiled potatoes, bacon, and bread for dinner, and bread and buttermilk for supper. The farmers receive twelve cents per day per person, for which they are boarded and taken care of. Three cents are added for the dirty.

The chief physician visits the colony once in six months; the physician of the section, once in two weeks, unless sent for. A supervisor makes the tour of the farm-houses daily; but if he is like the one who accompanied us, he is harmless, the farmer who has the most likely daughters getting the least trouble. Restraint is by rule only applied by order of the physician of the section. In the thirty houses I visited I saw only one *camisole*. I saw one woman with iron anklets so rusted that a smith would be required to remove it. It was applied to keep her from running away. The use of hobbles is not infrequent with cases disposed to elope. Many of those requiring restraint are sent to Bruges.

The provisions for heating are apparently *nil*; there is certainly nothing in the room of the patient nor in any other of the house, except the kitchen, whose large fireplace, judging from the ceiling, gives out more smoke than heat. One family kept their patient warm with bottles of hot water to the feet, and a layer of hay.

Gheel may do for Belgium, but not for us. Even in Belgium things are changing greatly from year to year, according to accounts; and from statements of inhabitants of Gheel, it is only a question of time when this system will have to be given up. In the country they are miserably taken care of, and in town, where men and women go about unaccompanied, results easily anticipated occur. We found some houses which had rooms to let. The reasons are suggestive: in one case the family used the patient's blanket in a winter night; in another the patient was abused; a third had a female patient who had become pregnant; a fourth became vacant for the same reason. I should judge there is more trouble on this score than is admitted. The fact that there are two hundred vacant beds in the colony now was used to corroborate the statement above made, that this system of taking care of the insane would have to be abandoned.

Heretofore I had entertained some poetical ideas concerning Gheel: the prose that I saw was sufficient to dispel them.

The guide told me that the majority of visitors went no farther than the town. Having myself seen more of the country than of the town, I may have seen less of the good features and more of the bad than is usually the case; but I am convinced that the general plan of Willard and the "Relief" at Washington are much better than this. X.

CACTUS GRANDIFLORA IN SUB-ACUTE AND CHRONIC RHEUMATISM.

BY HARVEY L. BYRD, M.D.,

President and Professor of Obstetrics and Diseases of Women and Children in Baltimore Medical College, Baltimore, Md.

AS our profession is founded essentially upon observation and experience, it becomes the duty of every one of its members to add all such new or unusual facts as have come under his purview or personal observation sufficiently often to convince him of their accuracy to the vast amount of valuable material accumulating almost daily, and imparting strength and durability to the grand old structure that has been gradually rearing its imposing and magnificent proportions through the ages that have passed.

These remarks are not designed or intended to call attention to the night-blooming cereus as a new remedy, nor, indeed, to what may not have been observed of its action or effects by others, but to direct the attention of practitioners to results which have been obtained so often by this single remedy as to entitle it, in my judgment, to far more confidence and frequent use than it has heretofore obtained with the profession generally. I have been getting better results for some time past from the administration of cactus grandiflora in heart-troubles resulting from or depending upon rheumatism than from any other remedy or combination of remedies in the relief of pain in that organ. The promptness and uniformity of its action in arresting pain in the heart resulting from rheumatism have been gratifying to my patients and myself in a considerable number of cases, and thus prepared the way for the early use of other treatment, when any additional treatment seemed to be demanded or required.

Its action in such cases led me some time ago to its use in subacute, and lately in a few cases of chronic, rheumatism of the

muscular structure; and I am happy to state that my expectations of good results have been fully realized in those cases also. I am not prepared to say what it might be capable of effecting in the acute form of the disease; but I feel warranted in concluding that we might reasonably expect favorable results from its use, particularly after suitable catharsis had initiated the treatment, and, indeed, from my experience, *ceteris paribus*, I would not be surprised if it should be found upon further use to be one of our most valuable therapeutic resources in the incipency of an attack of rheumatism.

I am accustomed to prescribe the fluid extract of the cactus as it is prepared by Messrs. Sharp & Dohme, of this city, and in eight- to twelve-drop doses, every three hours, or oftener, as the symptoms require, and do not hesitate to say again that I have obtained better results from its action in the cases in which it was directed than I could reasonably have expected from any agent with which I have had experience in my practice.

I shall give the cactus a fair trial in the next case of acute rheumatism that may come under my professional care, and shall be much disappointed if I do not find it of great efficacy in controlling the inflammatory symptoms, and also in preventing that most distressing and sometimes fatal sequel recognized as rheumatism of the heart.

Will not some of our brethren furnish us with the results of their experience with cactus grandiflora in rheumatism through the pages of the *Medical Times*?

127 ARLINGTON AVENUE.

TRANSLATIONS.

TREATMENT OF MALIGNANT GROWTHS OF THE MAMMARY GLAND BY ELECTRICITY AND POTASSIUM IODIDE.—In a memoir presented to the late International Congress, entitled "A Clinical Contribution to the Local and General Treatment of Malignant Tumors of the Breast and other External Situations," Prof. Mariano Semmola, of the University of Naples, reports successful results from the local use of galvanism combined with the internal administration of large doses of potassium iodide. The large needles of Ciniselli (steel, unpolished) were used in the cases reported, in the following

manner: the needle connected with the negative pole was slowly but deeply introduced from the circumference towards the centre of the tumor; the positive pole was at first likewise inserted, but in his later cases the author preferred to apply the anode to the skin at a point somewhere near the insertion of the cathode, in such a manner as to make the current traverse the greatest part of the tumor. The apparatus used was that of Stohrer, with small cells, or of Onimus modified by Vizioli, the maximum strength of the current employed being between 25° and 30° of the galvanometer of the latter. The séances should vary with the strength of the current, long applications with feeble currents being preferred to those of shorter duration with greater intensity. Where there is lymphatic involvement, and it is advisable to excite inflammation destructive in character, both needles are thrust into the growth, and a strong current employed. He practised, at first, applications of ten or fifteen minutes, but now prefers those of an hour at each sitting, with a feeble galvanic current, this to be repeated once or twice a week, rarely oftener than three times a week. The successive insertions are made in a circle around the base of the tumor, or around the nipple when the growth involves the whole gland. They are nearly painless.

The communication is based upon six cases in which the diagnosis was confirmed by competent surgical, and in some by microscopical, examination. They were a very large epithelioma of the right breast (the size of an orange), a fibro-sarcoma of the right breast, two sarcomata of the right breast, a sarcoma of the left breast, and cystic sarcoma of the upper third of the arm. The duration of treatment is necessarily long, the minimum being twenty-four applications made three times per week; in one case it extended over eight months. The results were sufficiently encouraging to warrant further trial for this method. Prof. Semmola concludes that—1, electrolytic treatment applied to malign tumors, such as epithelioma, sarcoma, fibro-sarcoma, etc., is capable of curing them, by acting in three different ways: *a*, by producing small centres of inflammation with consecutive sclerosis; the tumor is reduced to a volume very small as compared with its primitive size, and remains as a local hardening (cicatricial); *b*, by

producing a colloid and fatty transformation in the mass of the tumor, especially when it is in the way of softening; and, *c*, in provoking destructive inflammation followed by sloughing and abscess. 2. With the electrolytic treatment it is necessary to employ potassium iodide in large doses, perseveringly administered, in order to modify the direction of the nutritive changes.

RESULTS OF ANTISEPTIC METHODS AT THE MATERNITY HOSPITAL, PARIS.—M. Tarnier, in a recent address, instituted a comparison between two series of twelve years each before and after the adoption of special measures to prevent the occurrence and spread of puerperal diseases. From 1858 to 1869, inclusive, there were 19,476 labors, with 1814 deaths; mortality, 9.31 per cent. From 1870 to 1881, inclusive, there were 14,998 labors, and only 349 deaths, or a mortality of 2.32 per cent. The year 1870 marked the date of the introduction of prophylactic measures, and their results are no less convincing than gratifying. The reduction of the mortality, he states, is to be attributed (1) to a separation of the *personnel* of the maternity department and the dispensary service, and forbidding attendants in the lying-in wards from visiting the infirmary; (2) to isolation of patients; and (3) to the adoption of the antiseptic system of Lister and Pasteur. In the obstetric service, this method consisted in the careful and antiseptic washing of the hands of every one medically connected with the case, the use of carbolized oil or ointment, washing instruments with antiseptic solutions, disinfecting all dressings to be used, carbolized vaginal irrigation before and after delivery (especially when difficult), the application of antiseptic cloths after parturition is accomplished, the introduction of the vapor of carbolized fluids into the apartment, etc. In a special pavilion, in which these measures are carried out *de rigueur*, where healthy patients are taken and kept isolated until after delivery, out of 1223 accouchements there were only 6 deaths,—less than one-half per cent.,—and since 1879 there had been 608 cases confined, without a single death.

PREGNANCY IN ADVANCED AGE.—In the *Edinburgh Medical Journal* for June is the report of the delivery of a woman sixty-two years of age, by Dr. W. J. Kennedy. She had previously had twenty children (twins once), and three miscarriages.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 26, 1882.

EDITORIAL.

EDUCATION IN ITS RELATION TO CRIME.

AS the general average of mental culture improves in a community, it is to be expected that a diminishing proportion of the inmates of public institutions will be found to be grossly illiterate: for instance, in a country like Prussia, even the criminals will possess more literary accomplishments than in others that might be named, where general education is less carefully cultivated. Because criminals sometimes can read and write, it does not therefore follow that general education has failed to diminish the tendency to crime: it simply demonstrates that in any given case a certain amount of mental training is not incompatible with moral obliquity. This truth is so self-evident that it scarcely seems necessary to state it, were it not that some persons, misled by superficial appearances, jump at the altogether irrational conclusion that because education does not abolish crime it therefore increases it. When confronted with overwhelming evidence against this view, they hastily adopt the equally unfounded assumption that higher education does not reduce the tendencies to crime. This statement has been repeated so often that some regard it as an established truth.

The experience of military writers proves that the greatest number of breaches of discipline and instances of insubordination occur in the illiterate, and increase in proportion with the ignorance of the subject; and one of the most striking lessons of modern warfare is that the higher the mental training the better will be the soldier. This truth is equally applicable to the dis-

cipline of civil life: the more intelligent the citizen, the less active the temptations to crime, and the greater incentives to industry and thrift.

As the result of the labors of a special commission appointed by the National Educational Association for this investigation,* it was demonstrated, from the statistics of the penitentiaries and prisons of Pennsylvania, that "about one-sixth of all the crime in the country is committed by persons wholly illiterate, that about one-third is committed by persons practically illiterate, and, finally, that the proportion of criminals among the illiterate is about ten times as great as among those who have been instructed in the elements of a common-school education or beyond."

The experience of other observers proves conclusively that "in the immense majority of cases a very small degree of mental training or intellectual tastes is a preventive of idleness and consequent crime."

It has been asserted that in the Eastern States, with their abundant educational facilities, the proportion of convicts is greater than in the South; but there are many reasons for this which do not appear on the surface. The population of agricultural districts is well distributed; in manufacturing places it is condensed and congregated in towns, and the tendency to the commission of offences is greatly increased. Moreover, until within a few years, the South was comparatively free from the foreign element which gives such a large representation in all our public institutions, especially in prisons, pauper asylums, and political places. In localities of generally diffused intelligence and culture it is also to be noticed that the laws are, as the rule, more scrupulously enforced, and offences which in a younger community would scarcely attract attention are discovered and punished. It is a maxim well sustained by experience that

* The report in full has been published by the Bureau of Education, Department of the Interior, issued September 12, 1881, and is an interesting and convincing document.

laws cannot be enforced that are in advance of the general moral sentiment of the community: if enacted, they remain a dead letter upon the statute-book. The aggregate number of convicts is therefore not the criterion either of the intelligence or of the morals of a people. Hence every incentive exists in a country ruled by public sentiment to cherish the means of popular education, in ethics as well as in the arts, by free lectures, free libraries, and free schools. The public schools of the United States have well been styled the palladium of our liberties.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CLINICAL meeting of the Society was held at the Hall of the Society on June 21, 1882.

CASE OF RECOVERY AFTER OPERATION FOR PERITYPHLITIC ABSCESS.

Dr. J. V. Kelly presented a patient who had been successfully operated upon for perityphlitic abscess. The clinical history was as follows. About the latter part of last year he suffered from colicky pains in the right iliac region, which pains continued to increase, and finally a tumor about as large as an orange was developed. No nausea or vomiting occurred; slight delirium and fever were noticed. But little doubt remained as to the diagnosis, which was confirmed by Dr. Pepper on consultation. The patient took to his bed after the tumor had developed. An operation having been decided on, Dr. Keen performed it under the antiseptic method, and the case progressed to recovery with no untoward symptoms except on one occasion, when a slight chill occurred from the patient getting wet during the application of the dressing. The pulse was high for some time after the operation. The patient is now perfectly well, and the scar of the operation was shown to the members.

Dr. J. L. Ludlow said that he recalled a case in which a diagnosis of perityphlitic abscess had been made, but in which he doubted the diagnosis, and, having let the patient alone, the abscess discharged externally without trouble. Two or three cases of this kind were known to him. In the patient now presented, the scar seemed higher up than would be expected if the appendix itself was involved. The previous history of the case,

with the attendant *general* and *local* symptoms, will always put us on our guard as to diagnosis.

Dr. O'Hara had seen a case of perityphlitic threatening abscess, which terminated favorably; but in that case the patient seemed much sicker than this patient was said to have been. He would expect irritation of the psoas muscle. Any large accumulation of pus would give the symptoms which had been detailed. He did not think such a large accumulation could occur so quickly from irritation of the appendix, which would cause more or less peritonitis, circumscribed or diffuse.

Dr. Kelly said that the operation had been done by Dr. Keen, whom he had expected to be present to detail it, but, as far as he could recollect, the abdominal cavity was not opened. He agreed with the various speakers that mistakes might be made in the diagnosis, but this case had been examined by several physicians, including Drs. Keen and Pepper, and all had diagnosed it as inflammation around the appendix. Dr. O'Hara had misunderstood him in reference to the patient's walking about after the accumulation of pus had occurred. The patient had taken to his bed at that time. The case had really been brought before the Society as a protest against the conservatism which prevailed in Philadelphia in reference to this operation. The surgeons of this city seemed afraid to operate, while in New York they had no hesitation. In some instances it might be advisable to use the preliminary method of Dr. Willard Parker, of New York,—making an incision in the abdominal wall to invite the discharge in that direction.

DISCUSSION ON PUERPERAL ECLAMPSIA.

Dr. Ludlow said his experience was confirmatory of Dr. Smith's. He mentioned the case of a patient who went to Europe during her pregnancy, and aborted under conditions which Dr. Ludlow did not quite understand. She was again in Europe during a second pregnancy, and had some kidney-trouble, during which albuminuria existed, and she again aborted. When she returned to this country, he found albuminuria, an irregular heart, and peculiar delirium, like delirium tremens. He expected to see convulsions, but, although a miscarriage occurred, and the urine remained albuminous for some time, she had great insomnia and mania, for the relief of which he successfully used the old-fashioned camphor julep, after the more recent remedies had failed. The urine became normal and the heart regular, since which time she has not been pregnant. He afterwards found, by accident, that she had acquired in Paris the habit of taking chloral hydrate, which explained to a great extent her delirium. He desired to know if any of the members present knew of cases in which

chloral hydrate taken habitually, as in the above case, had seemed to produce trouble with the kidney, and, as a consequence, albuminuria.

Dr. Wm. T. Taylor said that during the relation of the case by Dr. Smith he was forcibly impressed with the fact that when a resort was had to the old-fashioned remedy of depletion, the cerebral trouble abated and improvement began to take place, showing the advantage of blood-letting. In regard to Dr. Ludlow's question, he stated that he had very frequently used chloral hydrate in fifteen- and twenty-grain doses in tedious labors, to quiet the patient and avoid the necessity of constant watching, and he never saw any injury from its use.

Dr. O'Hara said that the absence of albumen from a single sample of the urine did not prove that renal disease was not existing. He had seen cases of marked disease in which albumen was temporarily missing. For these reasons he could not agree that Dr. Walker's case proved either the absence of kidney-disease or that convulsions would produce albuminuria. He knew of a case in which chloral hydrate produced delirium of the character described by Dr. Ludlow, and supposed that if it were eliminated by the kidney it might be an irritant poison to it.

Dr. Neff asked whether Dr. Smith considered that all cases of puerperal eclampsia were caused by either organic or functional disease of the kidneys. If so, how can we explain those cases in which albumen is not found either before or after the convulsion? Dr. Neff detailed a case of this kind which had occurred in his own practice, stating, however, that out of ten cases this was the only one whose cause could not be traced directly to blood-poisoning through the improper elimination of effete substances by the kidney.

Dr. C. H. Thomas stated that Dr. Richardson, of Boston, had given special attention to the etiology of those cases of puerperal convulsions which were not associated with albuminuria, and had found that even in that class some kidney-trouble apparently existed, as in most of the cases a marked diminution of the amount of urinary secretion occurred.

Dr. E. W. Watson detailed a case which he saw in 1871. The urine had been examined at frequent intervals up to within twenty-four hours of the labor, and was always free from albumen or tube-casts. Convulsions occurred immediately after the labor, and two hours after their occurrence the urine was found to be highly albuminous. She has since had three pregnancies, with no appearance of albumen in the urine and no convulsions.

Dr. W. S. Stewart said that in his experience the convulsions occurred only in primiparæ. He had never seen true eclampsia in second or later labors, and would like to

know what had been Dr. Smith's experience on this point. He had known of cases where epileptic women had passed through labor without any convulsions. In regard to chloral hydrate, he thought highly of it, but it might be abused. He had stopped a convulsion by the injection of a drachm of it into the rectum. In this case he could not resort to bleeding, as the blood would not flow. If he had but one remedy to depend upon in eclampsia, it would be chloral.

Dr. Blackwood said that no doubt violent convulsions could cause albuminuria, but Dr. Smith's case showed that albuminous urine of eclampsia was not always due to this cause, and he detailed a case in illustration.

CONGENITAL CYANOSIS.

Dr. J. T. Eskridge read a paper on "Congenital Cyanosis" (see page 797.)

SALIVARY CALCULUS.

Dr. Dunmire presented a patient from whom he had, in 1877, removed a salivary calculus. When first seen, the sublingual gland was much swollen and the tongue pushed up. A yellow spot was seen to the right of the frænum, and this was found to be the calculus. It was removed. A similar one had been removed previously, and one since. A fistula now exists, which, if closed up, might cause the development of another calculus.

A CONVERSATIONAL meeting of the Society was held at the Hall of the Society on June 28, 1882.

DISCUSSION ON EFFECTS OF NASAL DOUCHE.

Dr. J. M. Barton called attention to the remark of the lecturer "that an obstruction in the nostril, from which the fluid was expected to escape, while using the douche, would cause injurious pressure upon the Eustachian tube," and stated that under those circumstances the fluid would readily escape into the mouth. He also thought that the danger to the Eustachian tube from pressure while using the douche was much over-estimated. If even the nostril by which the fluid was entering were occluded at its posterior portion, he doubted if the Eustachian tube could suffer any mechanical injury from the use of the douche at its usual elevation. Aurists, in dilating the Eustachian tube with the Politzer bag, use much greater pressure than would be caused by the five-foot elevation of the tank. He regarded the temperature and specific gravity of the fluid as of more importance than the pressure.

Dr. Eskridge said that since he had followed the directions given by Dr. Seiler, in a paper read before this Society some years ago, he had had no trouble with the nasal douche. If Dr. Barton would try the douche on himself, holding the reservoir at an elevation of about one foot above the head, he would find the press-

ure severe. In his own practice he never allowed patients to use the douche until he had used it once on them, and had them use it once in his presence. One serious mistake often made was that of breathing through the nose while using the douche. He disagreed with Dr. Seiler as to the quantity of salt necessary to be added to water to bring it to the specific gravity of blood. Dr. Seiler had said that a teaspoonful of common salt added to a pint of water would raise the specific gravity of the latter to that of blood; but Dr. Eskridge had tested the gravity of solutions of salt of different strengths, and had found that it required more than a half-ounce of the salt to raise the gravity of a pint of water to 1030, an ordinary teaspoonful raising it only to 1018. The specific gravity of blood is 1030; that of blood serum, 1028.

Dr. Nancrede said that all bad results which were observed in cases where the nasal douche had been used were not always fairly attributable to this instrument. In certain cases they would have occurred if such an instrument had never been conceived of. He related a case in point, of suppurative of the middle ear, which, in the opinion both of Dr. Burnett and himself, was due to the constitutional condition and concomitant disease rather than to the use of the douche. This was the only case within his personal knowledge where bad results had been even suspected from the use of this instrument, although he could readily conceive that its reckless use would prove injurious.

Dr. Addinell Hewson said he thought that the dread of the column of water doing injury to the middle ear through the Eustachian tubes, in the use of the nasal douche, was unfounded, for when the douche was properly administered, and the patient held his half-arches and velum sufficiently up to prevent any of the wash from the bottle passing down the posterior nares out the gullet, the half-arches were then so firmly pressed in their lower parts against the lateral portions of the pharynx as to secure the closure of those tubes. When the douche is not properly administered, such troubles might occur; but Dr. Hewson's plan is never to let the patient use the douche without his assistance or presence, and then to exact the observance of those conditions.

Dr. Blackwood did not allow water to get into the frontal sinus, and does not use the douche as much as formerly. Patients are apt to put the bottle too high, or use the water too hot or too cold. The post-nasal syringe and atomizer are much more valuable and efficient, but should always be used only by the physician.

Dr. Seiler, in closing the discussion, said that if Dr. Barton would make the experiment of taking salt water and fresh water in his nares, no matter of what temperature, he would soon see that the fresh water is more

irritating. Many points alluded to in the discussion Dr. Seiler said he would have to pass over, as he did not intend this evening to discuss the treatment of catarrh. The douche is only useful in the third or atrophic stage of catarrh, when the glands are diminished in function, and the mucous membrane is consequently dry, a fetid odor exists, and the condition is called fetid nasal catarrh: the term *ozæna* is now obsolete. In some cases presented for treatment the lower turbinated bone is wanting. Gottstein has suggested the use of a pledget of medicated cotton as a substitute for the bone. The good results are undoubtedly due to the stimulating action of the cotton as a foreign body, and not to the medicating solution. If the post-nasal cavity is obstructed, and the cavity filled with fluid, the pressure on the Eustachian tube will be the same no matter where it opens; if the cavity is not obstructed, the pressure will depend only upon the size of the outlet and the height of the reservoir.

DISCUSSION ON VACCINATION.

Dr. O'Hara said he did not like bovine virus: it did not take well, and when it did it was prone to irritate. He had seen some very ugly growths from its use, especially what might be called the "strawberry" form, which looked like a keloid of a red color.

Dr. James Collins said that he had been deeply interested in the paper, and could agree with everything said. He had seen much trouble from bovine virus; in some cases phagedæna or erysipelas had resulted, and vesicles not at all like those of vaccine appeared. He feared that not more than one-fifth of the vaccinations at present done were protective.

Dr. Loder said that as vaccine physician he had made several thousand vaccinations, and had seen the strawberry vesicle often, but only from bovine virus. In his experience it was late in appearance. He has now a case of painful tumor of the arm resulting from such virus. He had learned that humanized virus was bought by druggists, put on points, and resold as animal virus. He had used about twenty of the cones, and found only five good: those received direct from Chelsea were good, but those from the agency in this city were mostly worthless.

Dr. Nancrede said that in listening to Dr. Welch's valuable paper he was struck by the almost total ignoring of the constitutional condition of the patient as influencing the chances of erysipelas, etc. He, in common with other surgeons, had, for the period of time within which are comprised most of the series of bad results recorded by Dr. Welch, an unusual number of cases of erysipelas and its congeners, the majority of operation cases acting in a very unusual manner. This, the speaker thought, was explainable on various grounds not necessary to enter into now at

large, chiefly innutrition and bad hygienic surroundings, induced by straitened circumstances. He then instanced several cases in point. In one humanized virus had been used in a large number of patients, and in the only case where reckless exposure was incurred a sharp attack of erysipelas ensued, with an extremely ugly-looking arm. In another instance, where the regular course had been run, local irritation from scratching had been permitted, resulting in a markedly erysipelatous and bad-looking arm. In neither case was the virus at fault; in both the patients belonged to the wealthy upper classes, and in both an extraneous cause produced the result. The speaker wished to make it clear that he fully recognized the danger of carelessness in vaccinating, and heartily indorsed the paper of the evening, yet he could not believe that all the alleged bad results following vaccination were due to only one cause,—viz., bad virus.

Dr. W. T. Taylor had seen a few cases of the strawberry vesicle, but they had invariably resulted from bovine and never from humanized virus. He had repeatedly failed with the ivory points and quills, which were purchased from different druggists, often using from four to six points on the same patient before succeeding in obtaining a true vaccine vesicle. They were probably stale, although the druggists said they were fresh, yet they could not tell when they were obtained from the heifer.

During the last few months he had returned to the use of humanized virus, and had generally obtained a true vaccine sore, so that he believed the bovine virus was in many cases the cause of the difficulties now encountered.

Dr. Leffmann said that although physicians often spoke of "reliable druggists," it was his experience that very few druggists could be depended upon in matters of this kind, and some doubtless sold vaccine matter believing it to be good, but having no positive information about it, others sold it knowing its inferior quality. He wished to ask Dr. Welch if any facts existed to show that impure virus was more virulent in cases in which it produced true vaccination than in cases in which it failed to do so; in other words, would the fact of the virus "taking" make any foreign matter more active?

Dr. Welch said that he had in a former paper (Transactions of the Philadelphia County Medical Society, vol. iii.) discussed the subject of the strawberry—or, as he called it, red raspberry—vesicle, and had then pointed out that it had no protective value. This spurious result, following only the use of some form of bovine virus, is not new. It was fully described by a writer who lived and wrote in the days of Jenner. In the present paper he had said at the outset that conditions of the system might, in rare instances, affect the course of the vaccine vesicle, but they would

not account for the effects under discussion. The ulcerated and erysipelatous conditions described were doubtless due to bad virus. His experience at the Municipal Hospital had amply shown that vaccination in persons of broken constitution is not followed by such bad results. He had repeatedly vaccinated children of the worst physical condition and in most unfavorable states of general health, even actively diseased, and had never seen from pure virus such results as are detailed in the paper. In answer to Dr. Leffmann, he would say this, that the Westford cases showed that decomposed matter which had been devoid of true and active vaccine lymph had caused most violent action.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MAY 25, 1882.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Cancer of mammary gland of dog, with metastasis to liver and lymphatic glands.
Exhibited by Dr. H. F. FORMAD.

AN old female rat-dog, about two years ago, showed a circumscribed induration in one of the mammary glands, of the size of a walnut. This subsequently proved to be a permanent tumor, increasing very slowly in size, and causing the animal to suffer pain, at times intense. One year ago, when I saw it first, the tumor was of the size of a hen's egg, and painful on pressure. There was also involvement of the axillary glands, which were large and nodulated. I did not see the dog again until a year later, when it died and was kindly sent to me by Dr. Keys.

Autopsy.—The animal was greatly emaciated. The mammary tumor had reached the size of a large orange, was encapsulated, round and flat in shape, hard, skin movable over tumor. All over the abdomen and chest there were seen about twenty secondary tumor-nodes, varying in size from a pea to a hazel-nut. The axillary glands were nodular and greatly enlarged through infiltration by the new growths. Several secondary nodes of the growths were found in the liver. There was also a remarkable enlargement of the thyroid gland, on section proving an aneurismal goitre. Microscopic examination of the mammary tumor and of the secondary deposits showed scirrhus cancer.

Dr. S. W. GROSS remarked that if this growth was truly carcinomatous it certainly did not resemble the same neoplasm in man, as it was clearly circumscribed by a distinct capsule.

Dr. TYSON was a little doubtful whether it could be really carcinoma, even with the microscopic appearances described, since macroscopically the growth differed entirely from

human carcinoma, as it did not infiltrate the surrounding tissues.

Lesions of typhoid fever; small circumscribed sphacelus involving all the coats of the bowel in the centre of an ulcerated patch of Peyer.

Presented by Dr. J. H. MUSSER.

The specimen was derived from a young lady, who died of exhaustion at the end of the twenty-fifth day. The case was one characterized by constant high temperature,—105° Fahr. being noted in the morning of the twelfth day,—intense headache, and active delirium from the start. The temperature was 104.1° in the evening, twenty-four hours before death, and seemed to be as high almost up to the moment of death.

In the delirium there was constant talking, crying, and even screaming, to which was added, towards the close of the illness, troublesome cough, so that it was thought that there might be miliary tuberculosis and meningitis; but at the autopsy, made twenty-four hours after death, no lesions were found in the brain or lungs, not even a diminished transparency of the pia mater, nor the slightest effusion into the ventricles, while the sinuses of the dura mater appeared somewhat turgid with blood. Many of the Peyer's patches in the upper part of the ileum appeared to have nearly healed, but in the lower part were two large unhealed ulcers, in the centre of one of which was an oval, opaque, white patch, presenting the same appearance when viewed from the peritoneal or from the mucous side. It was about four lines in its longer diameter and three lines in its shorter. On touching it with the end of the little finger, it loosened from its peripheral attachment at that point with the greatest readiness, and there can be no doubt that, had she lived twenty-four hours longer, the little sphacelated piece would have dropped out and death taken place from peritonitis.

Acute hydrocephalus; acute Bright's disease in infancy; death from œdema of lungs.

Exhibited by Dr. J. H. MUSSER.

The infant, a male, 3 months old, from whom the specimens were removed, was brought to my notice as a case of acute hydrocephalus. He had had a fall three weeks previously. After the fourth day succeeding the fall, the mother noticed the head gradually increasing in size, without fever or any evidence of meningeal irritation save the utterance of short cries in the midst of his sleep, occasional vomiting, and a tendency to stupor. He nursed well, and his bowels were regular.

At the time of the visit the head was greatly enlarged, measuring three inches from auditory meatus to meatus, and being nineteen inches in circumference. The scalp was tense, the hair rather thin, the veins enlarged, the fontanels and sutures widely distended, so that fluctuation was manifest. The axis of the eyes looked downward; there was slight internal strabismus. The child was as bright as infants of his age, and was well nourished.

The first visit was made on the 17th of March, 1882. From thence until death no special cerebral symptoms developed. The "cry" and the vomiting continued, the latter but twice daily. On the 24th of April he was brought to me with general anasarca. It had been of three days' duration. The urine was scanty, and it was with difficulty that two drachms were obtained. It was three-fourths albumen, and contained numerous hyaline and pale granular casts. The anasarca increased, and death took place in seven days, from œdema of the lungs, or about nine weeks after the fall.

Autopsy, twenty-four hours after death.—Rigor mortis; general œdema. Brain and kidneys only examined. Membranes of base adherent, thickened, and opaque, with not very recent lymph in the fissures. Lining membrane of ventricles granular and thickened; velum matted. The ventricles contained a quart of clear fluid, in which a trace of albumen was detected; no urea or sugar. The substance of the brain was very pale; the convolutions effaced. The kidneys were enlarged, congested. The capsule was easily removed; gaped when incised. The exterior was mottled. On section, the cortical portion was much congested and swollen, of a dark-red color, with here and there punctiform hemorrhages. Microscopical examination of the kidneys showed changes which clearly indicated an acute catarrhal nephritis.

The cause of the Bright's disease was either the poison of diphtheria or scarlatina. A sister had the former disease at the time of the baby's death, while the latter disease was prevalent in the "row." The case is of interest on account of the early age of the child. I know of no record of a child so young having had acute Bright's disease.

Scirrhus of the mammary gland associated with empyema. Presented by Dr. E. T. BRUEN.

The specimens which I exhibit were taken from the body of a woman, æt. 40 years, who came under my notice at the Philadelphia Hospital about the 1st of March, 1882.

They comprise a tumor of the mammary gland about the size of a hen's egg, which proved, on microscopic examination, to be scirrhus cancer; also a portion of the pleura, showing a secondary deposit of the morbid growth. The portion of pleura is that covering the parietes beneath the attachment of the mammary gland on the left side, from which place the mammary tumor was taken. The remainder of the pleura showed the ordinary evidences of an empyema.

The history of the case exhibits these salient features. In the early part of March the subject came into the house complaining of malaise. Physical examination of the chest revealed a large pleural effusion on the left side. Paracentesis was practised, and about 110 ounces of serous fluid were withdrawn.

Subsequently the operation was practised, and the fluid withdrawn was found to be purulent. A drainage-tube was introduced, but the patient succumbed to an attack of erysipelas, after having been under treatment about two months. During the last three years of life the patient had periodical discharges of blood through the mammary gland, and afterwards, when the tumor had formed, through a point of ulceration on it. This was supposed to be a vicarious menstruation, since the hemorrhage occurred every twenty-eight days, and during the time of its continuance no menstrual flow appeared per vaginam.

The probable sequence of pathological changes in the pleura has seemed to me—1, a development of a pleurisy through the irritation of the deposit of the morbid growth upon the pleura; 2, empyema following the paracentesis. The pleural inflammation was evidently of low type, since no pain or cough or pulmonary symptoms had warned the patient of intra-thoracic trouble.

Dr. MUSSER asked whether hæmothorax was a more common accompaniment of carcinoma of the pleura than a merely serous effusion.

Dr. BRUEN replied that in the post-mortem examinations which he had made of three patients affected with carcinoma of the pleura, in all the effusion was serous. In one the effusion was due to pressure, while in the others it was evidently caused by the irritation of the foreign growth.

Dr. TYSON had nothing to offer from his own experience, but the usual statement of the books was to the effect that in carcinoma of the pleura a bloody effusion was common.

Dr. GROSS said that he had seen a number of patients with secondary carcinoma of the pleura, but in none was the consequent pleural effusion bloody.

Dr. FORMAD remarked upon the interesting point of the vicarious menstruation which had persisted for so long a time.

Dr. TYSON would like to call attention to another point of interest in this case,—viz., that the second paracentesis resulted in the withdrawal of a purulent instead of a serous fluid, as at the first tapping. It was quite common to ascribe this result to the entrance of air, but he was rather inclined to attribute it to a dyscrasic condition.

Dr. BRUEN thought that the withdrawal of a large amount of fluid took off the extra vascular pressure to such a degree as to produce a congestion, which resulted in a higher grade of action than at first, thus resulting in the formation of pus.

Dr. TYSON replied that although this was not an unreasonable hypothesis, yet it was incapable of proof. In support of it, however, he would mention the well-known fact that blood not uncommonly was found in the last-drained portions of fluid in a paracentesis pleuræ.

Dr. NANCREDE said that his colleague Dr. Starr had found by extended experience that by withdrawing on the first occasion a moderate degree of fluid, just sufficient to relieve urgent symptoms, repeated tapplings could be resorted to, resulting in the complete removal of the fluid without its ever becoming purulent.

Dr. GROSS corroborated Dr. Nancrede's statement by the reported results of foreign practice.

Dr. MUSSER remarked that if the dyscrasic view were correct, it could not fail to prove a most important diagnostic point. He mentioned, in this connection, the views of Trousseau and others with regard to latent pleurisy and tubercle as affecting the nature of pleural effusions.

Rupture of the descending colon from external violence.

Dr. J. EWING MEARS exhibited the specimen, which had been removed from a patient in St. Mary's Hospital. The autopsy was made by Dr. Strittmatter, resident physician, under whose care the patient was, and who furnished the following notes of the case:

Charles F., aged 14 years and 6 months, was admitted into the surgical ward of St. Mary's Hospital, May 12, 1882. He was engaged on the third floor of a factory in carting material to and from an elevator. He was in the habit of walking backward when putting his cart on the platform of the elevator, pulling the cart after him. On this occasion, however, the elevator had ascended a story higher, and, instead of stepping on the platform, he fell down the elevator-way to the ground-floor. Whether he struck anything previous to his contact with the lower floor cannot be positively ascertained. The cart, which weighed about fifty pounds, came down with him. When the boy was first seen, the cart was lying on him. His injuries, so far as could be detected on examination, were contusions on the back and below the right ear, fracture of right tibia and fibula, and contusion of abdomen.

When brought to the hospital, he was conscious, and complained of severe pain in the lower portion of the abdomen. He spoke hurriedly and as if in great agony. The surface of his body was cold, and his forehead and face were covered with cold perspiration. His countenance had a typically pinched expression. His skin presented a waxy paleness. His pulse was small, hard, 160; respiration quick, shallow, and at times sighing and gasping. Temperature, 97.5° in axilla. Morph. sulph. gr. $\frac{1}{2}$ was administered hypodermically; brandy in fʒij doses given by the mouth every fifteen minutes. Hot bottles were applied to the extremities. In half an hour no improvement had taken place; pulse grew more feeble and rapid, respiration also more sighing and rapid. Tinct. digitalis gtt. viii and atropiæ sulph. gr. $\frac{1}{16}$ were

now given hypodermically. No perceptible change, however, followed this. His pulse grew more feeble, and the respirations still more rapid.

He became uncontrollable, tossed his arms wildly around him, heaved deep sighs, and constantly clamored for water.

He recognized his mother and sister, but was unable to speak to them. In about an hour he became quiet, began to sink very rapidly, and two hours after admission died.

During life no careful examination was made of his body, excepting his head and what could be obtained by careful inspection, on account of the shock, from which he was suffering profoundly. By this no injury of the brain could be discovered, and none was manifested by any symptom, excepting the vomiting which took place about one and a half hours after admission. On his abdomen in left lumbar and inguinal region there was evidence of contusion. The muscular tissue seemed to have been separated, and allowed considerable bulging. On light percussion this gave rise to a somewhat amphoric sound. Moderately deep percussion gave dullness. Percussion on either side gave evidence of distinct line of dullness. Fluctuation was distinct. The catheter had been passed, and about two or three ounces of clear urine came away very slowly. More could not be discovered in abdomen. His right tibia and fibula were fractured in the middle third.

Post-mortem examination revealed the following condition of the abdomen. In the left lumbar and iliac regions the skin was discolored by extravasation of blood. It was not torn. The abdomen was distinctly bulging on this side. An incision showed this to be due in part to a clot in the connective tissue between the skin and the external oblique muscle. The greater portion of this clot was found two inches internal to, and on a level with, the anterior superior spinous process of the ilium. Under this there was no separation of muscular fibres, only a bruised, infiltrated spot.

Between the external and internal oblique there was found a quantity of coagulated blood, which was not as much circumscribed as that between the integument and the external oblique. There was also more extensive bruising of the internal than of the external oblique. Between it and the transversalis muscle everything was full of clot, while the transversalis was cut through or some of the fibres were separated a short distance internal to, and on a line with, the anterior superior spine of the ilium. The parietal layer of peritoneum was separated by an effusion of blood. The whole abdominal cavity was filled with blood. The only injury discovered in the abdominal organs was the rupture of the colon about two and a half or three inches above the sigmoid flexure.

Owing to the haste in which the autopsy

was made, a careful examination of the posterior wall of the pelvis was impossible. Nothing was noticed, however, on careful removal of the ruptured bowels. A small lump of hardened fæces was found in the abdomen near this rupture, and a prune-seed in the opening; several were above, one or two below.

No fracture of the pelvis could be discovered on careful examination.

Between the parietal layer of peritoneum and abdominal walls, anterior and posterior, there was abundant extravasation, so that without a careful dissection it was impossible to determine the amount of injury there.

Remarks by Dr. Mears.—It is evident from the nature of the injury sustained in this case that the bowel was ruptured by the direct violence inflicted by one of the projecting handles of the cart, which fell to the lower floor with the patient, and beneath which his body was found. It is interesting to consider to what extent the prune-seeds which were in the intestine contributed to the laceration of its walls. It is quite probable that they assisted materially, cutting the coats of the intestine with their sharp edges, as it was caught with the abdominal wall between the handle of the cart and the resisting bony wall of the pelvis. It will be noted that one was found in the opening of the upper portion of the lacerated colon.

During the two hours of his sojourn in the hospital after the accident, the symptoms indicated, in a marked manner, the existence of internal hemorrhage, in the character of the respiration, the pulse, and the temperature.

Dr. TYSON thought that the mechanism of this rupture necessitated some more or less solid body in the bowel, and that the prune-seed was the object which afforded the necessary point of resistance, as demonstrated by the persistence at certain points of the peritoneal coat, showing that the bowel had been divided by some dividing force acting from the lumen of the gut outward.

Dr. MEARS agreed substantially in the views expressed by Dr. Tyson.

Specimens from an excision of the hip-joint where death resulted from tubercular meningitis. Presented by Dr. C. B. NANCREDE.

The exhibitor said that the chief point of interest was the cause of death, which had resulted neither from the original disease nor from the operation itself, but from tubercular brain-trouble induced by the presence of a caseous focus, aided by an exhausting disease. He had removed the specimens last February from a delicate little girl, aged about 4 years, an inmate of St. Christopher's Hospital for Children. So-called pathological luxation had occurred, accompanied by abscesses, sinuses, etc. The child, as is so common, seemed to have received a new lease of

life consequent upon the removal of the diseased bone, gaining flesh and strength for some two weeks, when the appearance of the wound altered, and the child's temper and general condition became very variable, until well-marked meningitic symptoms set in, terminating life nearly five weeks after the operation.

THURSDAY EVENING, JUNE 8, 1882.

The PRESIDENT, Dr. S. W. GROSS, in the chair.

Specimens from a case of uræmia following the introduction of the split bougie. Presented by Dr. J. M. BARTON.

M. R. H.; æt. 32 years; occupation, merchant; has enjoyed good health for a number of years. Had an attack of gonorrhœa three months ago, which rapidly became gleet. He was under the care of different physicians, the last of whom used the bougie as a method of treatment. The solid instrument was used five or six times during the last month, and the split bougie, which is increased in size after introduction (known in this city as the invention of Dr. S. W. Gross), was used about as frequently. It was used for the last time on Saturday, June 3. It was then dilated to its full extent, without meeting with any resistance. On withdrawing the instrument, it was followed by a gush of blood, and each act of urination on both that day and the next was followed by a gush of blood, though the patient was able to, and did, go out, contrary to the advice of his physician. The blood lost during the two days was estimated at about a pint. On Monday morning the patient had a decided chill, followed by fever. On Monday afternoon, when I saw him for the first time, he micturated in my presence; the first four ounces of urine being clear, then one drachm of blood, then another ounce of urine, and then one ounce of blood, during the passage of which there was considerable tenesmus and pain. This was followed, about half an hour afterwards, by a severe chill, lasting an hour. On the following morning he appeared somewhat stupid and heavy, though no morphia had been used for a number of hours. No urine had been passed since six o'clock the previous evening, and on percussing over the bladder there appeared to be little or none in it. During the day the stupor increased, slight twitching of the tendons appeared, and, though active purges, diaphoretics, etc., were used, the uræmic coma increased, and proved fatal at 11.30 Tuesday night, three days after the introduction of the instrument.

The post-mortem, which was made this morning, gave no evidences of disease in any other organ than in the specimens here presented,—viz., the urethra, bladder, and

kidneys. The bladder contained about two fluidounces of dark-colored but translucent urine. The mucous membrane of the urethra was ruptured about three inches below the neck of the bladder. The rest of the urethra, as well as the bladder, appears healthy. The kidneys are both deeply congested, and bled freely on section.

The question of previous chronic disease of the kidney was discussed, and the specimen referred to the Committee on Morbid Growths.

Dr. GROSS had never met with a similar instance in his private practice, but had seen several cases in his hospital wards where death had resulted. One patient proved to have suffered from a rare affection,—viz., tubercle of the bladder, prostate gland, and urethra. He had also *granular kidneys*. Another case had also been operated on for epithelioma of the penis, had a stricture, and also *granular kidneys*. In another instance, the simple introduction of a bougie resulted fatally. In all such cases where death resulted from the slighter and ordinarily safe operations upon the urethra, he believed that there was always concomitant kidney-disease. There was also another point of interest concerning this specimen,—viz., that there were one or two spots in the course of the stricture where connecting bands of tissue remained, which showed, as his experience proved, that divulsion oftentimes failed to divide the stricture completely. For this reason, although at first an advocate for divulsion, he had abandoned it for many years in favor of internal division of the stricture by means of a cutting instrument.

Dr. NANCREDE related a case where the gentle introduction of a sound only a few sizes larger than usual into the strictured urethra of a patient suffering from glycosuria resulted fatally in about thirty-six hours.

Specimens from an excision of the hip-joint. Presented by Dr. C. B. NANCREDE.

These were removed in the middle of May of this year, from a girl æt. circa 6½ years, a patient in St. Christopher's Hospital for Children. She had suffered from the disease for over two years, had been apparently nearly cured, but had relapsed, when a large abscess of the thigh had formed, and had been opened. Great exhaustion ensued, with profuse diarrhœa and hectic, followed by the pointing of a large intra-pelvic abscess, which opened spontaneously three days before the operation. The case was a remarkably unpromising one, the acetabulum being perforated, and immense purulent collections in the thigh communicated with the intra-pelvic abscess. Notwithstanding, the patient rapidly improved, and when last seen (some weeks after the presentation of the original notes) both the operation wound and that left by the sloughing of the skin over the pelvic abscess had nearly closed.

THURSDAY EVENING, JUNE 22, 1882.

The PRESIDENT, Dr. S. W. GROSS, in the chair.

Epithelioma of the penis. Presented by Dr. FERDINAND H. GROSS.

THE specimen I have to present is not of any novel interest to most of the members of the Society, but I thought there might be some who would like to examine it.

J., aged 42, laborer, married, born in Ireland. About a year and seven months ago he noticed for the first time a dry whitish scab on the under surface of the penis, near the frænum. He did not apply to a physician until about five months ago, when the scab, which was then somewhat sore, was cauterized, and a cure promised in three months. The part which was cauterized sloughed away, leaving an ulcer which did not heal, but gradually increased in size. From the early part of April last, about two months before I amputated the penis, he began to apply at irregular times to the dispensary of the German Hospital, and was treated for a short time as an out-patient. My attention was first called to the case a week or two later by the resident surgeon. The patient himself ignorantly believed his disease to be of a syphilitic character, and this view appears to have been adopted by the physician whom he consulted. At the time I saw the case, the ulceration had made deep inroads upon the organ, involving the glans penis, prepuce, and integument, and other structures immediately behind. There existed a considerable mass of neoplastic tissue and a fistulous opening into the urethra. The pain was of a darting kind, and the part was especially painful on being touched. I judged the disease to be of a cancerous nature, and at my request the resident, Dr. L. D. Brose, removed several small portions for microscopical examination. The diagnosis having been confirmed, I had the patient admitted into the house, and amputated the penis on the 10th instant.

The specimen, as here presented, measures four inches in length, and includes about three-fourths of an inch of the organ beyond the visible diseased structure. In its greatest circumference, just behind the corona glandis, it measures seven inches. Beyond this point several small nodules in the integument are noticed. Except that one gland in the right groin appears very slightly enlarged, which the patient says has been so a long time, nothing is noticeable about the neighboring lymphatics, and they do not appear to be involved.

I am indebted to my resident, Dr. Brose, for the microscopical examination, and append his note:

"*Microscopical appearances.*—Squamous epithelioma. The sections examined were made up of large flat cells, containing one or more nuclei, which were very distinctly seen

under a power of three hundred diameters. The cells were seen to be arranged in the form of cones, which penetrated to various depths a vascular connective-tissue stroma. In some of the cylinders the epithelium had been arranged concentrically, forming the characteristic 'pearly bodies.' The papillæ of the skin were much hypertrophied, and had undergone proliferation inwardly."

Up to the time of writing this report, ten days after the operation, the patient continues to do well in every respect.

Dr. S. W. GROSS did not think that the disease had pursued a very rapid course, as a whole, but undoubtedly it latterly had progressed with unusual rapidity, probably owing to the irritation of cauterization, etc. He had lately seen a much more acute case at his clinic at the Jefferson Hospital College, where a man 42 years of age had applied with an extensive epithelioma of the penis complicated with an enlarged mass of glands in the groin of the size of a double fist. All this, according to the repeated statements of the patient, had appeared within six months.

Rupture of the spleen. Presented by Dr. FERDINAND H. GROSS.

J. G., a heavy, muscular American, aged 38, fell from, and was run over by, an ash-cart, at noon, June 16, 1882, the wheel passing over his body from the left side about the region of the eighth rib. He was carried to the German Hospital, where he was taken charge of by my resident, Dr. L. D. Brose, who found the patient in a profuse perspiration and complaining mainly of pain in his left side. On removing the clothing, no external discoloration or visible marks of contusion were discovered; but by careful palpation the eighth and ninth ribs of the left side were found to be fractured. The right clavicle, at the junction of its sternal with its middle third, was also fractured. Dr. Brose applied adhesion strips to the left half of the chest, and for the fractured right clavicle a Velpeau bandage. During the first night the patient vomited food. I did not see him until morning. In the course of the day some pain was complained of in the right side from the Velpeau bandage, which was directed to be removed. This fracture having been adjusted by means less constricting to the chest, the patient rested somewhat easier, but his countenance still retained the expression of great anxiety and suffering, and he complained much of thirst. Cracked ice was given, and occasionally two teaspoonfuls of liquor morphiæ sulphatis were administered. His diet consisted of milk with lime-water. In the evening of the 17th the temperature was 100.8°; pulse, 112. On the morning of the 18th the patient was reported as having vomited blood during the night; he still complained of great thirst, and was bathed in a cold sweat. The abdomen had become tympanitic and painful. Morphia and atropia

were administered hypodermically, but vomiting was only partially checked by this and other remedies. When it recurred later in the day, a dark, grumous matter, which was ascertained to be altered blood, was thrown up. A passage from the bowels, not containing any blood, was effected by an enema. Indications of serious internal injury, which were suspected on the previous day, were now unmistakable, and the spleen was believed to be ruptured. The morning temperature on the 18th had lowered to 100°, while the pulse had risen to 132. The bad symptoms remained uncontrolled by remedies applied internally and externally. The patient's mind remained clear until about fifteen minutes before death, when the temperature rose to 104½°. He died at 5 P.M.

Autopsy.—Found an extravasation around the seat of fracture of the clavicle, and a similar extravasation about the fracture of the ribs. Heart and lungs normal, except a slight congestion of the latter. In the left pleural cavity there was a small effusion of bloody fluid. The intestines were greatly distended by gas, and the abdominal cavity contained a large quantity of blood. The spleen, which is here presented, shows a large rent in its upper portion, and is heavy from infiltrated and coagulated blood. Stomach and liver normal.

REVIEWS AND BOOK NOTICES.

DISEASES OF THE EAR IN CHILDREN. By ANTON VON TROELTSCH, M.D., Professor in the University of Würzburg. Translated by J. ORNE GREEN, A.M., M.D., Aural Surgeon, Boston City Hospital, etc. (From Gerhardt's "Handbuch der Kinderkrankheiten.") New York, Wm. Wood & Co. 8vo, pp. 165. 1882.

Prof. von Troeltsch's monograph is perhaps unequalled in its graphic and succinct account of the etiology and pathology of ear-diseases in children. Its usefulness as a guide to the general practitioner cannot be overestimated, so great would it be if read and followed. "It must become," says the author, "the duty of every qualified practitioner, in a large number of general diseases, especially with children, to *inform himself* of the condition and powers of the ear, and also to direct the attention of the attendants to this organ, *without waiting* for urgent symptoms to *proclaim themselves*." (The italics are ours.) "In all violent inflammations of the nasal and pharyngeal mucous membranes, the frequency of a simultaneous disease of the mucosa of the ear should be borne in mind, especially in scarlet fever and smallpox;" for in the latter disease, according to the investigations of the late and lamented Wendt, the ear is affected in ninety-eight per cent. of all cases. Again, "in diphtheria and croup, the ear should never be for-

gotten, as experience shows both that these affections very frequently extend to this organ, and also that the aural inflammations accompanying them often assume an unusually serious and destructive character." The fatal results so frequently following ear-diseases can readily be comprehended upon reflecting that the blood-vessels of the soft parts of the external and middle ear are connected intimately with the circulation of the tissue of the temporal bone, and the latter with the vascular system of the dura mater; also that the blood-vessels of these two regions—the ear and the brain—are directly connected through the diploëtic veins of the temporal, which discharge into the sinuses of the dura mater. If space permitted, we would like to let this book speak for itself, and instruct the reader by thus quoting from it. The treatment throughout the book is a little antiquated, which is to be accounted for, we judge, by Von Troeltsch's increasing years, and his apparent unwillingness to be guided by any experience garnered by other and younger men within the last ten or fifteen years. The translator has done his work well, and has not given us broken English to read, as most translators do, especially in magazines. The reader of Dr. Green's English translation is not obliged to understand German in order to make out the text before him. The curious expressions "active action" (p. 61) and "feeling of the mucous membrane" (p. 85) must be typographical errors, and will doubtless disappear in a second edition, for which we trust there will soon be a call. x.

GLEANINGS FROM EXCHANGES.

TREATMENT OF MALIGNANT PUSTULE BY EXCISION.—Dr. Davies Colley, of Guy's Hospital, recently presented a communication to the Royal Medical and Chirurgical Society, based upon the notes of seventeen cases of malignant pustule, illustrated by microscopic sections of the lesion showing abundant bacilli anthracis in the corium and surrounding the hair-follicles. The points specially considered worthy of attention are the following:

1. Malignant pustule or charbon is not infrequent among tanners and wharf-laborers who have to handle foreign hides and fleeces.
2. It has not yet been observed at Guy's Hospital as a primary disease in the viscera or in the form of malignant œdema of the integument.
3. It has been seen only on exposed parts of the body,—e.g., the face, the neck, and the arms,—the most dangerous position being the neck, probably from its vicinity to the larynx.
4. The seventeen cases were between the ages of eleven and forty-seven, and the majority were young adults of the male sex.
5. Twelve out of seventeen cases occurred in September and the four following months.
6. The

disease may be confounded with malignant facial carbuncle, poisoned wounds, and primary chancres of the face. The chief points to notice are the painless character of the eschar, its vesicular margin and slightly depressed, dry, blackish centre. The nature of the disease is not infrequently overlooked, and its symptoms have been attributed to such causes as the bite of a mosquito, or the absorption of arsenic through an abrasion. 7. It should be treated at once by excision or free cauterization. In fifteen of the cases in which excision was practised, eight were already suffering from constitutional symptoms, and twelve had considerable oedema or glandular enlargement, yet all recovered. In the remaining two the symptoms were so serious when they were admitted that it was believed that operation would not avert a fatal result, and excision was not attempted: these were the only cases that died.—*Medical Times and Gazette*.

AMPUTATION OF THE SCROTUM FOR ELEPHANTIASIS.—A remarkable series of one hundred and thirty-six cases of elephantiasis scroti treated by amputation is reported in the *Glasgow Medical Journal* by Dr. George A. Turner, church missionary to the Samoans in the South Pacific during twelve years. In performing the operation he used a clamp of iron or brass, measuring, when opened to its widest extent, 5 by $3\frac{1}{2}$ inches, but sometimes a larger size (7 by $3\frac{1}{2}$ inches) was required. Great difficulty was experienced in managing the tumor, which was overcome by passing a board beneath it, and stationing an assistant at each end to support it; sometimes large hooks were used; finally a special operating-table was constructed. The steps of the operation are described by the reporter in the following words:

"The patient should be placed on the operating-table at least half an hour before operation, and lie quietly with the tumor raised considerably above the level of the body, that it may empty itself as much as possible of its blood. The upper bar having been removed, the clamp is then applied by raising the tumor and passing the screws up from behind on either side of its neck, the lower bar being held as far back towards the perineum as possible. The tumor is then turned down and the upper bar put on and fixed in its place by the thumb-screws. These, however, at this stage, should only be applied to keep the clamp in position, and should not in any way interfere with the circulation in the tumor. Before applying the clamp it is always well to make sure that no hernia exists, or, if it does, that it has been wholly reduced.

"The clamp being in position, chloroform is administered, the tumor still being kept elevated. The clamp is rapidly and firmly screwed down on both sides simultaneously. The tumor should now be turned upwards to expose its posterior surface. If it be small, it

may simply be turned upwards on the abdomen, its weight being supported by the hand of an assistant. In the case of large tumors, some other contrivance is necessary; and I have been in the habit of using a couple of large hooks, like shark-hooks, attached to a block and tackle fixed to the ceiling. These hooks are passed through the leathery skin at the lower part of the tumor, and by means of the tackle the whole tumor is raised so as thoroughly to bring into view its posterior surface. A rounded skin-flap is then raised from the posterior part of the neck of the tumor, the horns of the incision being at either end of the lower bar of the clamp. This flap should be about one and one-half inches long in its centre, and should be dissected up close to the clamp. The tumor is now lowered, and allowed to fall forward, so as to rest upon the leaf of the table. To enable this to be done, the patient should be drawn well down to the end of the table, and his legs from the knees downwards be made to hang down, one on each side of the leaf, and be fastened to the legs of the table.

"Either two or three skin-flaps should now be raised from the anterior surface of the tumor. If the penis be superficial, and not covered up by hypertrophied tissue, it will be sufficient to raise a right and left rounded flap, having their outer ends at the right and left end respectively of the upper bar of the clamp, and meeting in the centre under the penis. Where the penis is buried in the mass of the tumor, as it often is, in addition to the right and left flaps just mentioned, a third should be made between the two; and, as this central flap is made for the purpose of affording a new covering for the penis, care should be taken that it be formed of sufficient width to permit of its encircling that organ without any undue straining. The length of these flaps must be regulated by the probable bulk of the parts they will have to cover after the operation is completed. After dissecting up these flaps, the penis is next dissected out. This is sometimes a matter of no little difficulty, on account of the mass of hypertrophied tissue in which it lies buried. The best method is to start from the opening from which the urine escapes, which, in some cases, is found at the lowest part of the tumor, and from this boldly cutting upwards to expose the glans penis. This having been found, it is not difficult to dissect out the penis, which should then be held up on the abdomen, along with the anterior flaps, by an assistant. The next step is to find the testicles. These also, especially in the larger cases, are deeply buried in the substance of the tumor. The easiest and quickest way of finding these is to cut diagonally across the face of the tumor, first on the one side and then on the other, and, partly by the use of the knife and partly by tearing the hypertrophied connective tissue with the fingers, they are soon discovered.

They should then be dissected up with their cords, and held well out of the way. This having been done, a very few strokes of the knife will sever all the remaining tissues constituting the neck of the tumor, and the mass is removed. The testicles should next be examined. In some, even of the largest cases, they are found to be quite healthy, and almost, if not quite, of natural size. In the majority of cases, however, there is more or less hydrocele on one or both sides, generally associated with very considerable thickening of the tunica vaginalis. I have always treated these hydroceles by freely incising them, and, where there was much thickening of the sac, excising a very considerable portion of it. In some cases, where there was excessive hypertrophy of the sac, I have removed the testicle on that side. The next step is to tie all vessels which are seen in the stump. In all my operations I have used carbolized catgut ligatures, which were cut close off and left to be absorbed. The next thing is slowly to unscrew the clamp, being on the watch to tie anything that bleeds. At this stage of the operation, when sometimes a number of vessels show themselves simultaneously, I have found great advantage from the use of Dieffenbach's small self-holding forceps, which, while taking up very little room, control the hemorrhage efficiently, and give the operator time to tie the vessels one after another. In most of the larger cases there are usually some twenty to thirty, or even more, vessels which require ligature.

"If it should happen in loosening the clamp, as has occurred to me on two or three occasions, that some considerable vessel, which has at first been overlooked, slips behind it and bleeds freely, the best plan is at once to unscrew the clamp and throw it off, trusting to speed in securing all bleeding points. Too great care cannot be taken to tie every point from which it seems possible that bleeding may occur, as neglect of this precaution may give rise to very troublesome hemorrhage some hours afterwards. After all the vessels have been ligatured, the flaps are brought into position, and united with wire or catgut sutures. It is well to put a drainage-tube on each side behind the testicles. A 1-20 aqueous solution of carbolic acid was freely applied before the wound was closed, and antiseptic dressings were invariably employed.

"Of the one hundred and thirty-six operations already mentioned, the two largest were for the removal of the tumors, which weighed almost exactly eighty pounds. They were weighed about an hour after removal, and after a good deal of blood and fluid had drained away. In the case of A., the tumor had been years in growing. When he stood up it reached almost down to the ground, and measured forty inches in circumference. It will be observed that his limbs were all enlarged from the same disease. At the time

the photograph was taken, his right calf measured thirty-six inches in circumference, and the left only an inch or two less. In this case the testicles were both of natural size,—no hydrocele,—and they, with the penis, were preserved. The operation itself—formation of flaps, dissection of the organs out from the mass, and removal of the tumor—was completed in twelve minutes. The wound healed very rapidly. In the case of B., the tumor, which also was of several years' growth, hung down nearly to the ankles, and measured fifty-four inches in circumference. The elephantiasis in this case was almost entirely confined to the scrotum, the left leg and foot being the only other part affected, and that only slightly. In this case there was hydrocele on both sides; the penis and right testicle were preserved, the left testicle being removed.

"Of the other tumors removed, one was over fifty pounds, three were over forty pounds, and the rest were of various sizes, from about seven or eight pounds up to thirty-seven pounds. In none of the cases was the penis removed, in none were both testicles removed, and in the great majority all the organs were preserved. In one case, in which the tumor was over twenty pounds in weight, the wound healed almost entirely by first intention, and patient walked home, a distance of several miles, within a fortnight after operation. December 22, 1874, I operated on four of these cases, on the 23d on one, and on the 25th on one; and on January 26 the last of the six went home well.

"Of the one hundred and thirty-six cases, I lost only two, on the tenth and eleventh day after operation respectively. In the one case obstinate diarrhœa was the cause of death, and in the other fever. In these cases the tumors weighed about ten and fifteen pounds respectively. In two or three other cases, however, the patients were brought very low by diarrhœa or dysentery, although they eventually recovered. In one or two cases only was there partial sloughing of the anterior flaps.

"The success which attended these operations I attribute mainly to four things: 1, the completeness with which hemorrhage is controlled by the clamp; 2, the covering of the wound with skin-flaps; 3, the use of antiseptic dressings; and, 4, the fine physique and coolness and powers of endurance of the Samoans.

"In two of my operations I made use of Esmarch's tubing, and it answered fairly well; but I prefer the clamp as the more effective method. In these cases, after the removal of the tumor, the elastic tube has a great tendency to slip off, and was only retained in its position with difficulty; but my greatest objection to it is that when it is employed the skin is drawn into folds, and the operation thereby rendered much more difficult. When a clamp is used, on the other hand, we have

a flattened surface both anteriorly and posteriorly, which renders the operation very much more easy. Another great advantage which is gained from the use of the clamp is that, after the removal of the tumor, it is easy to slacken the screws, half a turn at a time, so as to cause any vessels which have been overlooked to show themselves, the bleeding being easily controlled by tightening them up again.

"The practice of forming flaps of skin for covering the wound has been objected to by some as tending to cause a recurrence of the disease. Sir Joseph Fayrer, for example, says, 'No attempt should be made to preserve flaps of integument, which are unnecessary, and almost certain to be the seat of recurrence of the disease. In from two to four months all is closed in by cicatrix tissue, which gradually perfects itself, and is not liable to become the seat of recurrence of the disease.' But in the great majority of cases it will be found that the skin covering the neck of the tumor is healthy. It is skin which has been stretched and drawn down by the weight of the tumor from the perineum and pubes. Surely it is not contended that the state of the skin is the exciting cause of the disease; and why the preserving of a few inches of it more or less should increase the danger of its recurrence I do not understand. Besides, if it be possible to cover up the necessarily large wound by skin-flaps, its more rapid healing is insured, and the danger of evil results thereby lessened. The formation of a posterior flap as the first step of the operation is, I think, of great advantage. It is done at this stage much more easily than if left to the last, when the bulk of the tumor, severed from its attachments anteriorly, would seriously inconvenience the operator. As already stated, it should be made short, so as to have the line of union well behind, in order to favor the escape of discharges from the wound. In some cases, where I feared retention of fluids and bagging of the posterior flap, I have, when closing the wound, divided it in the centre, so as to insure a thoroughly dependent opening.

"In describing the operation I have spoken of chloroform, but in almost all my cases I used the bichloride of methylene. I first used this anæsthetic on account of statements of Dr. Richardson, Mr. Morgan, and others, who claim that it is 'less dangerous than chloroform,' that 'its action is more rapid,' that 'recovery is more prompt,' and that 'if dangerous symptoms show themselves during its administration, they subside sooner on discontinuing the inhalation.' It will be easily understood that these advantages, if really possessed by it, were of the greatest moment to me, considering that, with very few exceptions, my operations were all performed with only the help of untrained assistants. I have been thoroughly satisfied with it, and never had any difficulty in connection with its ad-

ministration, though this was in almost every case done only by a native."

ACUTE IDIOPATHIC ARTERITIS—GANGRENE OF EXTREMITIES—DEATH.—Dr. Strahan reports the following interesting instance of a rare disease:

"E. G., a female patient, aged forty-nine years, under treatment for relapsing mania, was on February 4 suffering from an attack of acute maniacal excitement, the usual sedative remedies being administered. 5th. Condition unchanged; violent and destructive, requiring constant attention of two nurses. Was walked round court two hours between nurses. On coming in, patient was, the nurse said, 'taken very cold and trembled.' Patient was put to bed between blankets, and when seen by the medical officer, a very short time after, was in much the same condition as in the morning,—viz., restless and excited, striking any one within reach, shouting, tearing her bedclothing, etc. Ordered a draught containing forty grains of bromide of potassium and twenty grains of chloral hydrate. 6th. Had a restless but fairly quiet night. She did not, as on former occasions, attempt to leave the bed. Still in a state of acute active mania. The right leg was now discovered to be quite cold up to the knee, the skin being pale and mottled with purple. Volition and sensation lost. No pulsation could be detected in the popliteal space. The left foot and half-way up the tibia were in a similar condition. In the left leg pulsations could be felt in the popliteal artery, but nowhere below that situation. The left hand was markedly colder than the right, and no radial nor ulnar pulse could be felt; this hand she was using vigorously. Pulse at right wrist 96; small and weak. Temperature in right axilla 100.2°. The chest was carefully examined stethoscopically, with negative result. The limbs were wrapped in soft flannel. Opium ordered in grain doses every three hours, and milk, beef-tea, and small quantities of whiskey. 5 P.M.: Pulse 100; temperature 100°. State of right leg unchanged. Heat now present in left extremity as far down as the ankle, and sole of foot of a dark purple. Temperature of left hand still very much below that of right, and looks pale. No pulsation can be felt below the axillary artery, and there are signs of pain on pressure over the course of the brachial artery, but no swelling or discoloration. She uses the left arm freely, and throws it about much more than the right, which is in all respects normal. 7th. Had a restless night, tossing about as if in pain, but not speaking. Took some food and alcohol. Temperature this morning in axillæ 100.6°; pulse 140, thin and feeble. Left arm, which was tossed about much during the night, seems warmer to touch than it was, but is still below 95°, the lowest the thermometers (two) used register. Pulse can now be felt

at the elbow, and not below that point. Hand looks anæmic beside the other. No discoloration. Right leg darker in color, upper surface of foot very white, toes purple. Line of demarcation seems to be forming immediately below the patella. Severe pain, causing the patient to cry out, on pressure being made over the femoral artery as it passes from Hunter's canal to the popliteal space. No pain above this part, no pulse in popliteal. Left foot, cold as before; upper surface of foot deep purple, toes white. Pulsations easily felt in popliteal in this limb, but nowhere below that. Severe pain on moving either leg. Bowels acting. 5 P.M.: Little change in general condition. Has not spoken since morning. Takes nourishment in minute quantities. She is fairly under the influence of the opium. Has lain in a restless troubled sleep the greater part of the day. Pulse 144, fluttering. Sordes on teeth; eyes becoming sunken and glazed. Right leg as described this morning, except that the line of demarcation is better defined. Pain over femoral as before, and confined to the same part,—viz., the first three inches above the knee-joint. Left foot appears as in the morning, but now there is severe pain on pressure over the anterior tibial artery in its lower half. Toes of both feet flexed and freely movable. Left hand and forearm remain in the condition described this morning.—8th. She passed a restless night, gradually sank, and died at noon.

"Autopsy.—Twenty-six hours after death an examination was made of the body. The result is summed up in the following brief notes. Cadaver that of a well-built, well-nourished woman of about fifty. Some slight ecchymoses on arms and forearms. Left leg and foot, from knee down, of a deep purple mottled with white. Right foot purple, with well-defined limit just below the ankle-joint. Palm of left hand slightly purple. Rigor mortis well marked in all parts of the body, except in the parts of lower limbs mentioned above as being discolored, in which the joints were perfectly flexible and the muscles soft and flabby. Head: The dura mater was somewhat congested, as was also the pia mater, and there was some milky opacity of the arachnoid over the apex of the hemispheres. The brain weighed $5\frac{1}{2}$ ounces, and had an abnormally plentiful show of puncta vascularæ. In all other respects the contents of this cavity appeared healthy to the naked eye. There were no signs of atheroma in the arteries at the base. Chest: Lungs emphysematous to a large extent in their anterior and inferior borders. No fluid in pericardium. The heart weighed $10\frac{1}{2}$ ounces, all valves competent. The cardiac muscle was fairly firm and appeared healthy, as did also its lining membrane, which was in all parts smooth and glistening. Right auricle almost completely filled by a yellow, fatty-looking

clot. Right ventricle contained a much smaller clot of like character and some blood, while the left side of the heart was gorged with black fluid blood. The aorta, which was full of blood similar to that in the left heart, appeared perfectly healthy. Abdomen: Spleen rather soft and friable and dark-colored; liver congested; all the other organs appeared normal except the uterus, which was retroflexed. The right femoral artery at the seat of pain during life was cut down upon and removed for about three inches of its extent. It was easily found, as it was hard and round, almost as though the body had been injected for dissection. Black, tarry blood flowed slowly from the upper end of this section of artery, while the lower end of it was filled by a black plug of coagulated blood, which kept its form on being squeezed out. The wall of the artery was highly injected, had lost to a great extent its natural elasticity, was thickened, and had a harsh leathery feel. On its being slit up, its lining membrane was found to have lost the smooth, glistening surface; it was rough, of dark-red color, and covered, especially in its lower half, with hard nodules of black coagulated blood, which would not wash off, but remained firmly adherent to its lining membrane. As permission to examine the body was only obtained after it had been duly promised that nothing would be done beyond that necessary to ascertain the cause of death, none of the vessels in the other affected limbs were examined."—*Lancet*, July 15.

EXTIRPATION OF A CANCEROUS UTERUS.—Dr. A. N. Solovioff, of Moscow, reports (*London Medical Record*; from *Medis. Obozr.*, January, 1882) his third case of extirpation of the uterus for carcinoma of the cervix, in a patient aged 53. The operation was performed through the vagina. The uterus having been brought down by means of Museux's forceps, the cervix was separated from the surrounding parts, and then Douglas's pouch was laid open. The anterior peritoneal cul-de-sac was not opened; the operator cut off, by means of scissors, the whole of the mucous membrane, and the greater part of the muscular wall, leaving a thin stratum of the latter, with the serous covering *in situ*. The broad ligaments were then divided, some vessels were tied, and a drainage-apparatus (four Nélaton's flexible catheters sewed together) was introduced into the opening in Douglas's pouch. On the seventh day after the operation the drainage-tube was removed. On the fifteenth day the patient was up. Her recovery was rather slow. This is the second time the author has operated through the vagina, which method he prefers to the high (or laparotomic) operation, finding the low extirpation technically easier and less liable to such complications as shock, or accidental wounding of the bladder or ureters. The high operation he regards as indicated only

when the uterus is too large to be removed through the posterior or anterior peritoneal cul-de-sac, or when there exist adhesions of the womb and degeneration of lymphatic glands (*Mediz. Obsr.*, October, 1881, p. 516). The author gives the reasons which led him to perform total extirpation of the womb, though the cervix alone was affected. The researches of Drs. Ruge and Veit have shown that in cases of cervical cancer the epithelium of the body of the uterus also degenerates very early. Microscopic examination of the mucous membrane of the body of the organ in the author's case fully confirmed the statement of Ruge and Veit. Dr. Solovioff belongs to the most ardent advocates of Freund's operation, and even holds that total extirpation of the uterus is the only rational procedure in the treatment of the uterine cancer. [This is the sixth case of Freund's operation performed in Russia. Dr. Levenstein, of Moscow, operated twice, with two deaths (*London Medical Record*, December, 1880, p. 496); Dr. Solovioff three times, with one death; and Dr. N. J. Bogoluboff, of Kazan, once; the patient recovered (*Vratch*, 1881, Nos. 48 and 49). Probably the brilliant results lately published by Dr. Bardenhever, of Stuttgart (*Die Drainirung der Peritoneal Höhle*, Stuttgart, 1881), who operated twelve times, with eleven recoveries, will encourage Russian surgeons to perform Freund's operation more often than they have hitherto done.—*Rep.*]

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM AUGUST 6 TO AUGUST 19, 1882.

PROMOTIONS.

COLONEL CHARLES H. CRANE, Assistant Surgeon-General, promoted Surgeon-General, with the rank of brigadier-general, to date from July 3, 1882, *vice* Barnes, retired.
LIEUTENANT-COLONEL CHARLES C. KEENEY, surgeon, to be surgeon, with the rank of colonel, June 30, 1882, *vice* Cuyler, retired.
LIEUTENANT-COLONEL JOHN F. HEAD, surgeon, to be surgeon, with the rank of colonel, June 30, 1882, *vice* King, retired.
MAJOR JOSEPH B. BROWN, surgeon, to be surgeon, with the rank of lieutenant-colonel, June 30, 1882, *vice* Simons, retired.
MAJOR DAVID L. MAGRUDER, surgeon, to be surgeon, with the rank of lieutenant-colonel, June 30, 1882, *vice* Keeney, promoted.
MAJOR CHARLES PAGE, surgeon, to be surgeon, with the rank of lieutenant-colonel, June 30, 1882, *vice* Head, promoted.
CAPTAIN JOHN BROOKE, assistant-surgeon, to be surgeon, with the rank of major, March 2, 1882, *vice* Frantz, deceased.
CAPTAIN WM. H. GARDNER, assistant-surgeon, to be surgeon, with the rank of major, June 23, 1882, *vice* Notson, deceased.
CAPTAIN CHARLES SMART, assistant-surgeon, to be surgeon, with the rank of major, June 30, 1882, *vice* Brown, promoted.
CAPTAIN WM. S. TREMAINE, assistant-surgeon, to be surgeon, with the rank of major, June 30, 1882, *vice* Magruder, promoted.
CAPTAIN MORSE K. TAYLOR, assistant-surgeon, to be surgeon, with the rank of major, June 30, 1882, *vice* Page, promoted.

HARTSUFF, ALBERT, MAJOR AND SURGEON.—Having reported at these headquarters on 3d instant, surrendering unexpired portion of his leave of absence, will proceed to Fort Union, New Mexico, and report to the commanding officer for duty. S. O. 153, Department of the Missouri, August 4, 1882.

BILLINGS, JOHN S., MAJOR AND SURGEON.—By direction of the President, relieved from duty as a member of the National Board of Health. S. O. 190, A. G. O., August 17, 1882.

BROWN, J. M., MAJOR AND SURGEON.—Assigned as attending surgeon at headquarters, Department of the South, in addition to his duties as post-surgeon at Newport Barracks, Ky. S. O. 79, Department of the South, August 10, 1882.

HUBBARD, V. B., MAJOR AND SURGEON.—Now awaiting orders, to report in person to the Commanding General, Department of the Missouri, for assignment to duty. S. O. 186, A. G. O., August 11, 1882.

SMART, CHARLES, MAJOR AND SURGEON.—By direction of the President, detailed as a member of the National Board of Health, organized under act approved March 3, 1879, *vice* Major Billings (surgeon), relieved. S. O. 190, c. s., A. G. O.

BYRNE, CHAS. B., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 68, July 12, 1882, Department of the South, is extended two months. S. O. 189, A. G. O., August 16, 1882.

SEWIG, B. G., CAPTAIN AND ASSISTANT-SURGEON.—To be relieved from duty in Department of the Platte, and, on expiration of his leave of absence on surgeon's certificate of disability, granted him in S. O. 121, c. s., A. G. O., to report by letter to the Surgeon-General. S. O. 186, c. s., A. G. O.

WILCOX, T. E., CAPTAIN AND ASSISTANT-SURGEON.—To accompany Troop "F," First Cavalry, to Fort Walla-Walla, and then repair to these headquarters for assignment to duty at Vancouver Barracks. S. O. 106, Department of the Columbia, July 31, 1882.

TAYLOR, M. E., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Jefferson Barracks, Mo., and to report by letter to the Surgeon-General. S. O. 185, A. G. O., August 10, 1882. Granted leave of absence for four months. S. O. 188, c. s., A. G. O.

POWELL, J. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Confirms telegraphic instructions of this date to allow the Lieutenant-Colonel Tenth Cavalry, and Troops "G" and "L" of that regiment, and Assistant-Surgeon Powell, to continue temporarily, and until further orders, at Fort Stockton, Texas. S. O. 84, Department of Texas, August 9, 1882.

MCCREERY, G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Transferred from Fort Apache to Whipple Barracks, A. T. S. O. 119, c. s., Department of Arizona.

EBERT, R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Walla-Walla, W. T., to accompany Troop "E," First Cavalry, to Boise Barracks, and, on arrival there, relieve Assistant-Surgeon Wilcox from duty at that post. S. O. 106, c. s., Department of the Columbia.

RAYMOND, H. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Transferred from Whipple Barracks to Fort Apache, A. T. S. O. 119, Department of Arizona, August 3, 1882.

EGAN, P. R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at David's Island, N. Y., and to report in person to the Commanding General, Department of Arizona, for assignment to duty. S. O. 185, c. s., A. G. O.

WAKEMAN, WM. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Columbus Barracks, Ohio, and to report in person to the Commanding General, Department of the Platte, for assignment to duty. S. O. 185, c. s., A. G. O.

MACAULEY, C. N. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Appointed Assistant-Surgeon, to date from August 10, 1882.

CHERBONNIER, A. V., CAPTAIN AND MEDICAL STORE-KEEPER.—Upon expiration of his present sick leave of absence, to report in person to Lieutenant-Colonel E. Swift, Assistant Medical Purveyor, New York City, for duty in the medical purveying department in that city. S. O. 188, A. G. O., August 14, 1882.

PHILADELPHIA, SEPTEMBER 9, 1882.

ORIGINAL COMMUNICATIONS.

THE PATHOGENESIS OF SECONDARY TUMORS.

BY HENRY WILE, A.B., M.D.,

Rochester, N. Y.

(Concluded from page 809.)

CHAPTER V.

THE FATE AND MICROSCOPIC STRUCTURE OF PERIOSTEUM AND OTHER PARTICLES OF NORMAL TISSUES EXPERIMENTALLY TRANSPLANTED.

THE gradual development of the periosteal embolus introduced into the lung of dogs by means of the jugular vein can be perfectly studied, as my preparations represent the different stages. In all the experiments I was careful to take periosteum only, and not to take any bone-structure with it; so that, while removing a fragment of periosteum from the bone, I occasionally examined a similar fragment as to its histological structure, and found it to present appearances which may be thus briefly described. It was composed of two layers,—an outer or fibrous layer, composed of dense fibrous connective tissue, and an inner or so-called osteogenetic layer, made up of areolar connective tissue, rich in cellular elements, also containing some yellow elastic fibres. Both layers were freely supplied with blood-vessels, which carried the blood to and from the bone.

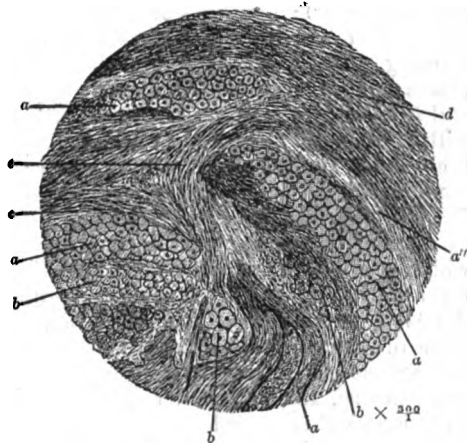
Before introducing the periosteum, I took particular pains to squeeze it, so as to free the blood-vessels from clotted blood, in order that, when the embolus finally became lodged in some vessel, the blood might gain access to the interior of the embolus, and in this way give good support and nutrition.

The fate of the embolus was to get lodged in some branch of the pulmonary artery, just as in the case of the tumor emboli. Here, as there, the embolus produced thrombosis; and, if examined a few days after its introduction, it showed itself to be intimately enveloped by a blood-clot, indicating a tendency towards organization. In sections made still later, the organization of this blood-clot demonstrated

the higher phases of organization analogous to those seen in ligation of arteries.*

In experiments of fourteen days after preparing the specimens, a section, stained in carmine and mounted in Canada balsam, presented the following appearance. The artery is seen in transverse section, and exhibits slight evidences of inflammatory change, the adventitia being thickened and filled with proliferating cells; the media appears normal, while the intima of the vessel shows distinct thickening, also due to proliferation of its cells. In the lumen is seen the periosteum folded up and twisted, and in the interspaces formed by the folds of the periosteum and the walls of the blood-vessels are seen masses of an organizing blood-clot, which in some places are beginning to be absorbed. This organizing blood-clot evidently serves as a matrix for the embolus, the latter being dependent temporarily to a great extent upon the clot for its nourishment. The clot is always in direct communication with the intima, and is in turn nourished by the vasa vasorum of the mother vessel. Only

FIG. 5.



Ossification of periosteal embolus in lung of dog, showing details of the ossifying process. (Experiment No. 34, of 14 days' duration. Drawing reduced to one-fourth of actual size.) *a*, Inner layer of periosteum changed into osteoid tissue. *a'*, Unchanged periosteum. *b*, Outer layer of periosteum. *c*, Osteoblasts. *d*, Organized thrombus tissue filling interspaces. *e*, Wall of mother vessel in intimate union with embolus. *e*, Band of tissue leading vasa vasorum of mother vessel to the centre of the embolus.

in rare instances is the periosteum seen in contact with, and deriving its nourishment directly from, the vasa vasorum.

* I would even suggest to those who make studies of the healing of arteries to extend their experimentation to similar artificially-produced embolisms of lung.

At this place the intercommunication of blood-vessels between the embolus and the wall of the blood-vessel is distinctly seen. The outer layer of the lamella of periosteum, as seen in transverse section, is unchanged. The inner layer shows the beginning of ossification analogous to that seen in foetal intermembranous bone-formation. At this stage the inner periosteal layer is seen transformed into hyaline glassy cells, very imperfectly stained, and resembling most perfectly the tissue of callus which is produced during the process of healing of bones. This I will call *osteoid tissue*, designated by authors as the osteogenetic layer. It extends as a uniform belt parallel to and bordering the outer layer of the periosteum. The inmost layer of this osteoid belt is made up of large cells, which in some places are seen distinctly to have undergone calcification.

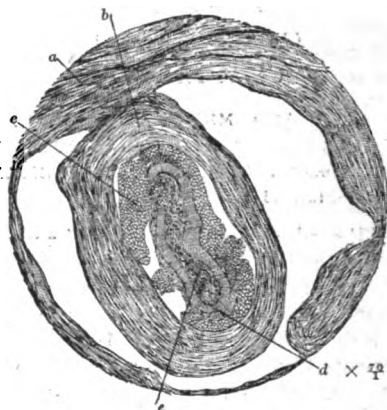
Some preparations made from experiments of the same duration show a somewhat further development of the changes above detailed. Preparations from another of these fourteen days' experiments present the following appearances. The belt of osteoid tissue presents a still more glassy appearance. The outlines of the cells are less distinct, and still did not take carmine staining. The lowest layer of cells has in places unevenly proliferated, forming larger and smaller heaps of cells of osteoid tissue, with distinct calcification; but in the main it continues as a belt, and twists in a curved manner, describing an imperfect ellipse. Next to the osteoid tissue is seen a layer of cells of embryonic character, many of which are distinctly giant-cells, and this layer also is calcified in some portions. Attached to this layer is a third belt of tissue of very uniform width, and composed of large elongated rod-like cells or plates of uniform size, and arranged nearly parallel with one another, their long axes being perpendicular to the other two layers, so that it presents an appearance similar to that of a lining made up of large columnar cells. This layer and the cells composing it correspond precisely, and have the appearance of what are described as osteoblasts. Within this last belt is a long, narrow space, which is filled with lymphoid cells, osteoclasts, etc., forming the elements of marrow of bone. This collection of cells is freely pierced by blood-vessels.

Outside of this ossifying ellipse is seen the organizing clot upon which the em-

bolus depends for some nourishment. But much of this clot is absorbed, yet enough is left to form a capsular fibrinous mass, being attached on the outside to the intima of the blood-vessel.

It will be noticed that true, fully-developed bone is not seen at this stage.

FIG. 6.



Transverse section of a pulmonary arteriole partly filled with organized blood-clot, enclosing a periosteal embolus, which shows the process of ossification, somewhat diagrammatic. (Drawing reduced to one-third.) *a*. Thickened intima (the other coats of the vessel-wall are not represented). *b*. Clot containing the embolus. *c*. Osteoid tissue. *d*. Layer of columnar osteoblasts. *e*. Marrow-cavity filled with young cells.

In experiments of nineteen days' duration the formation of true adult bone is beginning to become prominent. A lamella of bone substitutes the belt of osteoblasts described above, and the interior of the ossifying embolus is largely composed of embryonal marrow-cells and calcifying cell-masses.

In preparations from experiments of thirty-three days' duration extensive ossification is seen. The whole periphery of the embolus represents solid, typical bone-tissue with lamellæ, Haversian canals, and bone corpuscles. In the interior of the embolus the development is not completed, and small islands of marrow and calcified masses are yet demonstrable. The outer layer of the original periosteum is seen upon the periphery.

Experiment of forty-five days' duration shows complete ossification of the embolus; only a few angular marrow-spaces are seen in the interior. The growth and further progressive development of the ossifying embolus are evidently accomplished by apposition,—i.e., by superaddition of bone lamellæ. This is seen from the fact that the embolus assumes bulging outlines, and

occasionally forms projections of bone-tissue.

In experiment of fifty-six days' duration growth continued. The structure of the embolus answers all the requirements of fully-developed bone. Appositional centres are superadded at the periphery, so that the nodular appearance of the embolus is very conspicuous.

Specimens from experiments of seventy days' duration show beautiful and perfect bone-structure. In the foregoing experiments marrow-cavities were always present, but they became smaller in each successive experiment. Here they are altogether obliterated, leaving only spaces for minute Haversian canals.

Preparations from later experiment continue to present the same general appearances, showing only an increase in bulk. One peculiarity, however, is prominent,—*i.e.*, that the Haversian canals become progressively smaller. Thus the bone is very similar to the so-called *ivory-like* (*eburnated*) bone.

Specimens from experiments of one hundred days' duration show that the embolus has reached at least fifty times its original bulk, and, as in all the later experiments, shows extensive proliferation in all directions.

(I omitted to state the important fact that in most of the later experiments the blood-vessel wall and even the fibrous capsule surrounding the embolus were found to have been completely absorbed, so that the bony node appeared bare in the midst of the somewhat compressed lung-tissue.)

In experiment of one hundred days' duration, five small independent centres of ossification were found scattered in different parts of the lobe, which contained the main embolus. This latter was found in a branch of the pulmonary artery, which came off near the base of the lobe, so that it is very possible that fragments became detached and gave rise to these secondary nodules.

Here I would like to interpret properly the appearance of many apparently independent collateral centres of ossification in the immediate neighborhood of the main embolus. These centres may be noticed in close proximity with the main centre. By careful study of successive sections of the embolus the reason of this was obtained. It was seen that these centres did have a connection with the main embolus, each

being connected by an isthmus. The isthmus is irregular, curving in different directions, so that in a section of the embolus this connection may not be seen, on account of the curve in the isthmus not being reached by the section-knife. The centres thus appear independent. I will refer to this again in a later chapter. (See Figs. 7 and 8.)

FIG. 7.

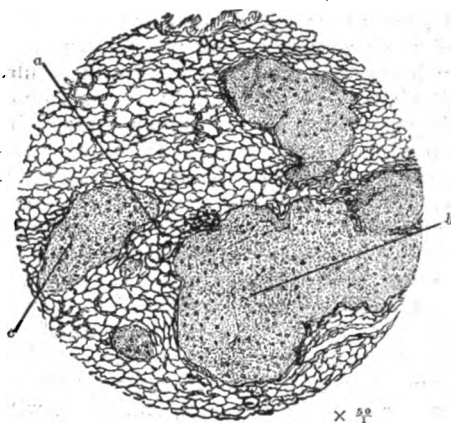
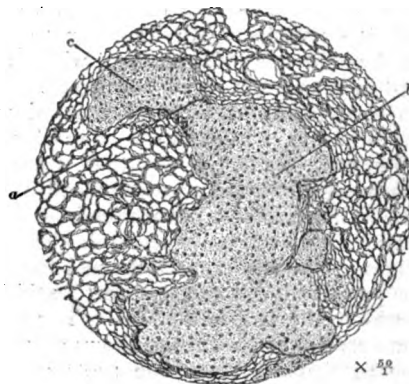


FIG. 8.



Two microscopic sections made from different levels of one of the periosteal emboli developed into bone in lung of dog. (Experiment No. 6, of 100 days' duration. Drawing reduced to one-third of its size.) *a* in Fig. 7 shows connection, *a* in Fig. 8, disconnection, of apparently independent centre of ossification *c*. *b*. Main embolus.

Before presenting my conclusion to this chapter I would like to enumerate the details of three other experiments, two of which were performed with adult tissue other than periosteum.

In experiment of thirty-six days' duration, periosteum was introduced into the anterior chamber of the eye of a dog. On making transverse section of the cornea,—*i.e.*, section in the direction of the visual

axis,—preparations were obtained which showed the cornea, a part of the iris, and the capsule of the lens intact. The space between the lens and the cornea was seen filled by a new-formed material. In examining this latter there was seen on one side the periosteal fragment surrounded by a dense fibrous capsule, which, although showing increase in bulk and cellular proliferation, exhibited signs of degeneration. This degeneration was indicated by the presence of the products of fatty metamorphosis, such as compound granule-cells, molecular *débris*, etc. Starting from the capsule of the periosteum was seen a new form of inflammatory organized tissue, filling completely the space of the anterior chamber. This tissue was connected by intimate union with the cornea anteriorly, and with the iris and capsule of the lens posteriorly. In fact, this intimate union suggests the idea that the new formation may have taken its origin from the surfaces of the structures mentioned. On close examination it proved to be made up of a vascular areolar connective tissue, infiltrated with pigmented leucocytes.

The outcome of this experiment is that, although the periosteum did not develop itself, it excited enough irritation to set up a slow chronic inflammation, which resulted in the formation of new tissue.

In experiment of fifty-one days' duration, skin was transplanted. In all the specimens it is clearly seen that the embolus became encysted, and attached itself to the wall of the cyst by means of the subcutaneous connective tissue, while the epithelium of the epidermis remained free in some parts and did not connect itself in any way to the wall of the cyst. The subcutaneous connective tissue shows adipose tissue particularly below the roots of the hairs, looking very much like the so-called "*columnæ adiposæ*." This is the more striking, since before inserting the embolus care was taken to remove most of the subcutaneous connective tissue. The wall of the cyst, which completely encapsules the embolus, is composed of connective tissue, and shows plainly that it has taken its development from the endothelium of the intima. The embolus having been taken from the skin of a black dog, there is to be seen some pigment in the rete mucosum. The hairs are likewise deeply pigmented. Some of the hairs seem to be slightly atrophied and disconnected from their follicles. Pig-

mented cells are also seen investing the fat-vesicles.

The third experiment to which I have reference is that of transplantation of smooth muscular tissue, taken from a fragment of cervix uteri, removed by Dr. William Goodell, at the University Hospital clinic. (See experiment No. 37 in the table.)

The muscular tissue was examined before introduction, and found to consist of perfectly normal unstriated muscular tissue, and, before introduction, was well squeezed, to rid the blood-vessels of any clots of blood.

As seen from the record in the table, the transplantation was a success. After the lapse of forty-two days the embolus was found of increased bulk, and did not show the slightest retrograde change. As can be distinctly seen in the specimen, the increase in bulk was not in this or any other case due to the presence or superaddition of the organized blood-clot alone, but to an active proliferation of the cells of the transplanted tissue itself. In the embolus under consideration, besides proliferation of the muscular cells, evident from the young cells between the muscular bundles, micrometric measurement reveals increase of the cells.

To the above I may add that the embolus was encapsuled and united with the intima of the blood-vessel in the same manner as described in other successful experiments.

One point may be mentioned before concluding this chapter; it is this: as already stated, I met with many failures in this work of transplantation, a number of which I did not put on record. Yet, after hitting upon proper methods, as detailed in Chapter I., and becoming accustomed by exercise to carry out properly the details of the procedure, I rarely failed. Thus, in experimenting with muscular tissue, I made but one experiment, and this was positive.

It is a matter of regret to me that I cannot present experiments extending over periods of years rather than months. But, such as they are, they are perfectly satisfactory to me. They have fully established definite laws in the growth and development of transplanted tissues. There is not the slightest reason to suppose that this growth and development should be opposed or hindered. On the contrary, I

have full right to conclude that those emboli of normal tissue of periosteum, skin, unstriated muscle-fibres, would, if let alone, have continued to grow, it may be, indefinitely, not having been bound to limits of any physiological purpose as in regeneration. They would have developed into larger tumor-masses. This is the more probable as at no time in the more successful experiments were there any evidences of retrograde changes.

I have also shown that the mode of growth of the emboli of normal tissue was precisely identical with that which I have demonstrated in my experiments with cancer. Conditions, mode of growth, and ultimate results being the same, it naturally follows here, as there, that the development is not due to any specific property of the cells, but is due to the simple vital property of ordinary cell-proliferation.

CHAPTER VI.

REFUTATION OF COHNHEIM'S EMBRYONAL THEORY.

The teachings of Cohnheim on the subject of "Etiology of Tumors" are tersely formulated in the following proposition: "A tumor is the result of a fault or irregularity in the primitive germ."* By this is meant that in embryonic life, during the period when the tissues are forming out of the cellular material, there is some irregularity in the distribution of this material, by which more cells are set apart for a certain tissue or organ than are needed, and that these cells lie dormant until certain conditions, which are yet problematic, stimulate them to growth.

In support of this theory he brings forward the fact of their hereditary and congenital character, conceding, however, that, according to his theory, it is not necessary that the tumor be always born with the person, but only a predisposition thereto is necessary, which predisposition he regards as a superfluous amount of cells situated in the midst of a tissue, and these cells, by virtue of their embryonic nature, have in them potentially the power of proliferation.

He contends that every child may bring with it into the world the cell-material out of which subsequently a tumor may de-

velop; furthermore, that these superfluous cells may be prevented from proliferating by a *physiological opposition* of the surrounding normal tissues;† but, given a disturbance or destruction of this physiological opposition, a tumor will result. Cohnheim even suggests the probability of many persons dying in whom these superfluous cells existed, but certain unknown conditions, together with a strict physiological opposition, prevented their proliferation.‡

On the other hand, one of the conditions that favor their growth is an increased blood-supply to the part, and this is always met with in the active growth of childhood, the period of puberty, menstruation, or pregnancy. Thus it is easily seen how a relation can exist between the different periods of life and the appearance of new formations,—*e.g.*, tumors of the skin and bones, age of puberty; tumors of the genital organs, time of menstruation and pregnancy.

By means of his theory Cohnheim also explains the peculiarity of tumors as regards their appearance in certain localities. It is a well-known fact that we have new formations at the different orifices where there was a stopping or a union of different blastodermic membranes, as in the rectum, stomach, and uterus.§ Here are favorite seats for new formations, and in these places, according to him, are these superfluous cells especially deposited. Where we have an osteoma in the lung, it is due to a development of cartilage-cells left over from the bronchial plates.||

Thus the germs of every tumor are to be sought for away back in foetal life, and it is therefore to be regarded as a monstrosity; and, as a monstrosity is explained by some disturbance in the primitive germs of the embryo, he maintains that a tumor should also be thus explained.

I have thus far endeavored to present a brief outline of Cohnheim's embryonal theory, together with its application. As is seen, the essence of the theory consists in regarding a tumor as the result of a proliferation of superfluous misplaced (heterotopic) cells, particular stress being laid upon the supposition that these cells are of embryonic character. Impressed with this idea, a number of Cohnheim's followers undertook extensive experiments, and

* Cohnheim's *Allgemeine Pathologie*, Berlin, 1877. p. 635.

† *Ibid.*, p. 661.

‡ *Ibid.*, p. 639.

§ *Ibid.*, p. 641.

|| *Ibid.*, p. 644.

the results of their experimentation seemed to furnish an anatomical basis for Cohnheim's theory. The most successful of these experiments seem to be those of Leopold, whose results I will quote immediately. I would like, however, to state that several years previous to Leopold, Zahn made experiments, and obtained results essentially identical with those of Leopold. It also appears that Zahn was in no way influenced by Cohnheim's ideas. Leopold, who worked under the direct supervision of Cohnheim, experimented with the following tissues. He transplanted both foetal and adult tissues into the anterior chamber of the eye, jugular vein, and abdominal cavity of rabbits. The tissues used were cartilage, bone, skin with hair, intestine, whole extremities with and without hair and nails, whole heart, large pieces of rib, and whole foetal head. From five series of experiments, he draws the following conclusions:

"Transplanted cartilage from adult rabbits is absorbed, or remains in very exceptional cases stationary.

"Transplanted cartilage from foetal living rabbits continues to grow every time, so that it may become two or three hundred times the size of the particles transplanted, thus giving rise to true tumors." These tumors he calls *enchondromata*.

The experimenter describes the mode of development and ultimate fate of each transplanted tissue. In the case of transplanted cartilage, he speaks of the formation of bone with marrow-cavities, etc. A tumor presenting these characteristics he calls an *enchondroma*.

Surely this is not in accordance with standard pathological terminology. A calcified mass of tissue with marrow-cavities would ordinarily pass for bone, and a tumor with such characteristics would properly be called an osteoma. However, his experiments show that embryonic tissues possess eminently the power of proliferation, and that adult tissues only in exceptional cases keep from being absorbed; but my experiments clearly show that adult tissue may also continue to grow,—that periosteum introduced into the jugular vein of a dog will proliferate and form small, bony tumor-masses in the lungs. This is entirely at variance with the results obtained by Cohnheim and Maas,—namely, that adult tissue (periosteum) transplanted became absorbed after twenty days.

Since the publication of the results of my experiments by Dr. H. F. Formad, who read a paper on "The Etiology of Tumors" before the Philadelphia Pathological Society, April 28, 1881, in which he embodied the results of some of my experiments, there have appeared two other papers, which to a great extent confirm my observation.

Prudden experimented with adult hyaline cartilage taken from the head of the femur of a rabbit, transplanting the same into the subcutaneous tissue of other rabbits, and in one case there was an actual new formation of hyaline cartilage. The conclusions which he draws from his experiments are as follows: "That in a rabbit the cells of bits of cartilage transplanted alive may live unchanged for many months, or may lead to the new formation of embryonal cartilage, which may undergo active proliferation."

Ollier, of Lyons, describes a case of successful transplantation of bone, and one of his conclusions is that "transplanted bone is capable of living and growing." What interests me in Ollier's operation is the fact that the transplanted adult tissue was not absorbed, thus confirming my observation that transplanted adult tissues do not disappear. In this respect his experiments have a direct bearing upon this subject: still, the ultimate results are not pertinent here, as they refer more to the subject of regeneration.

Thus transplanted adult tissue may continue to grow as well as embryonic tissue, and whatever embryonic cells are potentially able to do lies in the power of any living adult cellular tissue. It is one of the grand principles of modern cellular pathology that all new formations arise from pre-existing cellular elements; and, as the cells of every new formation have their prototype in the living mature organism, it is not unreasonable to suppose that these cells may be the germs of a neoplasm. To say that they arise from embryonal cells alone only removes the problem farther back. The question naturally suggests itself, Where do these embryonal cells come from? Under what conditions are they deposited?—which of course can never be determined. A subject is not explained by putting it beyond our reach: such a treatment merely augments its inexplicableness.

The experiments of Cohnheim and Maas

(recorded in *Virchow's Archiv*, vol. lxxix.) are incorrect. They must have been conducted carelessly, as their results could not be confirmed. Cohnheim and Maas failed to transplant periosteum successfully, and they explained their failure upon the ground that the transplanted tissue was not of embryonal character.

I repeated their experiments, and out of a series of thirty-eight found that in sixteen the periosteum continued to develop and did not disappear. I have shown also that adult muscular tissue and skin grew vigorously when transplanted into the lungs. (See Chapter IV.)

And now that it has been proved that adult tissues grow as well as embryonal tissues, the whole theory of the embryonal-tumor development is altogether fallacious, if it must depend for its support upon such results as were derived from the experiments in this direction of Cohnheim and Maas and of Leopold.

CHAPTER VII.

APPLICATION OF RESULTS OBTAINED FROM THE EXPERIMENTS TO METASTASIS AND SECONDARY TUMORS.

The experiments which I have performed and tabulated show that a particle of adult tissue, if dislodged from the parent mass and carried off by the circulation, may continue to grow and increase in size. The periosteal embolus gets lodged in a vessel too small to admit its passage, and, the circulation in it being maintained, as in a thrombus, by means of the vasa vasorum, it ossifies.

These experiments were repeated after the method of Cohnheim and Maas, but with different results: whereas in my experiments the embolus was found, after the lapse of one hundred days, projecting from the surface of the lung, in the experiments of Cohnheim and Maas, after twenty days, the embolus could no longer be felt externally, but was found, a shrunken mass, without ossification, within the blood-vessel, and after thirty days all trace of it disappeared.

Therefore, having found the embolus after one hundred days increased in size and in a healthy condition,—i.e., without any trace of degeneration,—there can be no doubt that such an embolus may con-

tinue to grow indefinitely, and form an abnormal mass of tissue,—a tumor.

The analogy between the process just described and that of metastasis of tumors is very close, and the idea that the embolic process underlies metastasis is by no means new.

By metastasis of tumors we understand the carrying of particles of living tissue through the system by means of the blood-vessels or lymphatics. Pathologists define it as that process by which morbid changes are transferred from one primary diseased part or condition of the body to another.

As to the fact of metastasis there is or can be no doubt or dispute, but as to the explanation of the fact there exists the greatest diversity of opinion.

The humoral pathologic school hold that the cause of secondary tumors is the same as that which produces the primary ones, namely, a dyscrasia, or peculiar unknown diseased condition of the blood or blood-making apparatus. This theory is maintained by Billroth, in his *Surgical Pathology*, where he compares the diathesis of tumor-formation to the scrofulous and tuberculous diathesis. In support of this theory many facts are presented, chief among which is this: that after a tumor has been removed from one part of the body, years later, it may be, a secondary tumor of the same structure as the primary one will develop in some internal organ. The secondary lesion, according to this theory, is secondary only in point of time, and has no relation with the primary tumor further than that it is the issue of a common cause,—dyscrasia of the blood. Thus the relation is one of time, and in no way anatomical.

This view—once held by the majority of leading pathologists—is now generally discarded, and most conclusive proof against it appears to me in the complete failure to produce tumors when tumor-juices free from tumor-particles were injected.

The process is now regarded as resting upon an anatomical basis, and the secondary tumors are believed to be the result of the development of tumor-emboli. The question of dispute here is whether the emboli infect the surrounding tissue by a species of metabolism, and thus give rise to secondary tumors, or whether they grow centrally and produce tumors by virtue of inherent cell-proliferation. Upon this

point I would offer the following: in my experiments with tumor-particles the particle transplanted never produced any changes in the surrounding tissue indicating any infection, but, on the contrary, it grew independently if it grew at all. In favor of a central growth of the embolus is also the shape of metastatic deposits. It is generally a known fact, among those who investigate this matter closely, that all secondary tumors grow as nodes, and never at the expense of the surrounding tissue.*

One of the strongest points in favor of an infection or transformation of the surrounding tissue was the observation that, in cancer, around the principal tumor-mass in the surrounding connective tissue there existed scattered and isolated cancer-nests. These were composed of epithelial cells, and were observed to have no connection with the main tumor. It was therefore inferred that a peculiar power of transformation emanated from the primary cancer which transformed the surrounding connective tissue into epithelioid elements.

But it has been discovered by Waldeyer and Pagenstecher† that the epithelial cells from a freshly-extirpated cancer possess the power of amoeboid motion. This was supposed to explain fully the appearance of these isolated groups of epithelial cells. Yet these isolated epithelial cancer-nests can be explained in a much more plausible manner, so that the amoeboid motion of the cells is not at all necessary.

It is a well-known fact that the proliferation of cancer-growths follows the lymph-channels of the connective tissue. These lymph-channels run by no means in a straight direction, but travel in the most circuitous routes. For instance, a channel may start from a primary focus of cell-proliferation, describe a curve, and again reach the level of the primary focus, at the same time the distal end of the curve being some distance from the starting-point. Under such circumstances, a section made across the growth in a straight direction shows isolated cancer-foci, which are nothing more than the distal ends of the curving lymph-channels filled with cancer-cells. Of this fact I have convinced myself by an investigation of the mode of growth of

my periosteal emboli in the lungs, which presented similar appearances in microscopic sections. I frequently saw isolated centres of ossification which I was unable to explain until by careful examination of successive sections I discovered that they were nothing more than transverse sections of extended, curved prolongations from the main or central ossifying embolus. (See Figs. 7 and 8.)

Some of the propositions and views referred to in the different chapters of my paper have been suggested and spoken of properly by various observers, but only on mere hypothetical grounds. I feel happy that I succeeded in my research in furnishing facts and proofs by experiments which appear to give a more firm basis for the explanation of the origin and nature of secondary tumors, and which I trust will help to remove this question from the domain of mere speculation.

In my original manuscript (deposited in the Stillé Library of the University of Pennsylvania) I have embodied twenty-five micro-photographs, taken from my specimens, which prove and demonstrate well all the points brought forward. The high price of printing photographs induced me to limit myself, however, to but a few cuts (accurate copies from the photographs) inserted in this paper.

UNIVERSITY OF PENNSYLVANIA, February, 1882.

VIRULENCE OF NORMAL HUMAN SALIVA.

BY GEORGE M. STERNBERG,
Surgeon U.S.A.

IN the *Medical Times* of June 17, pp. 627-631, is an interesting paper by Dr. Charles Claxton, giving the results of a series of experiments "performed in great part as a check upon those of Sternberg."

The results reported confirm in the most essential particulars those which I had previously obtained, and the main object of the present communication is to say that I believe that Dr. Claxton is quite right in supposing that the dark pigment often found in the spleens of rabbits dead from this form of septæmia "*is due to post-mortem change.*"

I suspected as much at the time I made my report, but refrained from saying so, inasmuch as I was not quite sure of it, and hoped to make further observations with

* In favor of the embolic origin of secondary growths is their nearly exclusive peripheral location in organs, and also the fact that experimentally-produced emboli have a similar location.

† Birch-Hirschfeld, *Patholog. Anatomie*, 1877, p. 118.

reference to this point. I therefore contented myself with mentioning the fact of the presence of this dark-colored pigment. My belief that this pigment in the spleens of septæmic rabbits is identical in appearance with that found in the spleens of malarial-fever patients is based upon a comparison with mounted specimens of the latter, exhibited to me by Dr. Formad at the time I was conducting my experiments, with his kind assistance, in Philadelphia. We both agreed that the pigment supposed to be characteristic of malarial fever resembled exactly the pigment found in the spleens of these septæmic rabbits.

The possibility that the dark pigment found in the spleen, etc., of malarial-fever patients is likewise due to post-mortem change has also occurred to me, but I have hesitated to raise a question of this kind with reference to a matter which is so generally accepted as well settled by the researches of leading pathologists in various parts of the world.

This change in the spleens of septæmic rabbits, if post-mortem, is not necessarily a putrefactive change; indeed, I am rather inclined to believe that it is due to the chemical action of some fluid which escapes in small quantity from some of the viscera into the cavity of the abdomen. I infer this from the fact that dependent portions of the spleen are most discolored and contain the dark pigment in the greatest quantity, and from the further fact that spleens not pigmented do not become so, according to my observation, after they are removed from the body of the animal. That post-mortem changes have frequently been mistaken by pathologists for the results of pathological processes can scarcely be doubted; and when we consider how promptly such changes occur in hot climates, and especially after death from septic diseases, this is not surprising.

If it is true that the black pigment sometimes found in the spleens of septæmic rabbits is due to post-mortem change, then it is also true that *this change may occur within twelve hours during the month of January in the latitude of Philadelphia*; for my post-mortem examinations were all made within this time, and in a certain number of cases the black pigment was present, a fact verified by my friend Dr. Formad. In pursuing these experiments I have always endeavored to make my post-mortem examinations as promptly as pos-

sible, but, as the rabbits very commonly die during the night, the earliest practicable time has generally been in the morning, immediately upon commencing work in the laboratory. Sometimes the victims are found in the death-struggle,—as noted by Dr. Claxton, they commonly die in convulsions,—sometimes they are dead, but still warm; and again they are cold and rigid, and the abdomen is distended with gas, showing that they have been dead for several hours.

If, then, the hæmoglobin of the red blood-corpuscles in the spleen of a septæmic rabbit may be changed into granular masses of dark pigment in the course of a few hours in mid-winter, is it very improbable that a like change may occur in the spleen, the blood, etc., of patients dead from malarial diseases, the pernicious forms of which bear a close resemblance to septæmia? I merely suggest this as a point worthy of the attention of pathologists, and not because it is necessary to defend my position with reference to the insufficiency of the evidence upon which Klebs and Tommasi-Crudeli have claimed to produce malarial fever in rabbits. (*Vide* Special Report to National Board of Health, Supplement No. 14 to Bulletin National Board of Health.)

The point I make in the report referred to is that the presence of black pigment in the spleen of a rabbit is not evidence that it died of malarial fever, inasmuch as rabbits dead from septæmia produced by the subcutaneous injection of human saliva may also have black pigment in their spleens. The fact that this pigment is due to post-mortem change does not weaken the argument, unless it can be shown that in the experiments of Klebs and Tommasi-Crudeli the pigment existed in the spleens before death.

Dr. Claxton cites four fatal cases in which death occurred in from twelve to nineteen days, and in which "*the spleen was normal*," as opposed to my statement that changes in the spleen are more marked in those cases which are of longest duration. I did not refer to cases in which death occurred at so remote a period, as I believe the fatal result in these cases to be due to secondary changes, and not directly to the infectious form of septæmia resulting from the introduction into the body of the animal of the micrococcus found in human saliva. In these cases the animal

withstands the direct assaults of the parasite, but falls a victim to secondary changes resulting from its temporary presence. This view is supported by the fact that in these cases, according to my observation, the micrococcus is no longer found in the blood, and this fluid has lost its virulent character. My remarks applied to cases in which the animal succumbs to the acute infectious disease. In these the spleen has, in my experience, shown more marked changes (tumefaction, discoloration) when death occurred at the end of three or four days, than in cases terminating fatally in thirty-six or forty-eight hours, the greater number, including all of those in which my own saliva was injected.

These points, however, although worthy of the attention of pathologists, have less interest for me than has the etiological question relating to the rôle of the micrococcus. Dr. Claxton's results are extremely satisfactory in this regard, and I take the present opportunity for reporting some additional confirmatory experiments recently made by myself.

Experiment No. 1.—San Francisco, July 6, 1882. Injected twenty-five minims of my own saliva beneath the skin of left flank of each of two half-grown rabbits. *Result.*—Both rabbits were found dead on the morning of July 8. Post-mortem examination at 8 A.M. showed extensive cellulitis, dilatation of superficial veins, and abundant effusion of serum in subcutaneous connective tissue. This serum, and the blood obtained from the heart, swarmed with micrococci exactly resembling those heretofore found under similar circumstances in New Orleans, Philadelphia, and Baltimore.* (*Vide* Special Report to National Board of Health in Bulletin of National Board of Health, April 30, 1881.) One rabbit was still warm, the other had evidently been dead for several hours. The spleen of the first was but slightly enlarged, that of the second was swollen, hard, and dark-colored in patches. No pigment found in either spleen.

A culture-flask containing rabbit *bouillon* was inoculated with blood from the heart of rabbit No. 1. At the end of twenty-four hours the fluid in this flask swarmed with micrococci. A second culture-flask was inoculated from this, a third from the second, and so on to the sixth, twenty-four hours being allowed in each case for the development of the micrococcus.

Experiment No. 2.—July 15. Injected twenty-five minims of above culture-fluid

(sixth) beneath the skin of a half-grown rabbit. *Result.*—This rabbit died during the night of July 18, and upon post-mortem examination was found to present the same pathological appearances as in the former experiment,—viz., extensive cellulitis, with effusion of serum swarming with micrococci. The blood also contained the micrococci in abundance; spleen somewhat enlarged and dark-colored; no pigment found.

A new culture was started from the blood of this rabbit by introducing a minute quantity directly from the left auricle into a culture-flask containing sterilized rabbit *bouillon*. As before, this was carried by successive inoculations from one flask to another to the sixth culture, the culture-flask being in each instance placed in an oven, at 100° Fahr., for twenty-four hours, for the development of the micrococcus.

Experiment No. 3.—July 26. Ten minims of above culture (No. 6) was injected beneath the skin of a half-grown rabbit. *Result.*—The animal died at 10 A.M., July 29, and a post-mortem examination was made at once. The subcutaneous connective tissue was, as usual, infiltrated with serum containing the micrococcus, which was also present in the blood in large numbers. The spleen was very large and dark-colored. A portion was removed for microscopical examination, and the remainder left *in situ*, the animal being so placed that it should be dependent.

No pigment was found in the portion first removed, but the presence of black pigment in the portion left *in situ* was verified the following day (removed at 9 A.M., July 30).

Remarks.—The most interesting point connected with these experiments is the fact that my saliva is as virulent now as it was in New Orleans in the summer of 1880, in Philadelphia in January, 1881, and in Baltimore in the summer of 1881. Evidently this virulence is not a temporary character due to external conditions. For nearly a year I have been residing in a very healthy climate, and have been free from septic influences such as I suggested in my first paper might account for the marked difference in virulence observed in the saliva of different individuals. This corresponds with what Pasteur has shown to be true of other septic organisms,—e.g., the micrococcus of chicken cholera and the bacillus of anthrax,—viz., that varieties possessing different degrees of virulence breed true when cultivated continuously under circumstances favorable to their multiplication. In the human mouth we have a culture-chamber maintained at a constant temperature, and furnished with a constantly-renewed supply of pabulum,

* For details as to method employed, *vide* "Studies from the Biological Laboratory," Johns Hopkins University, vol. ii., No. 2, p. 164.

saliva, so that the conditions are more favorable for sustaining the physiological characters of the particular breed of micrococcus present than they could be in any artificially-conducted culture experiments.

How it happens that the micrococcus in one man's mouth possesses just the proper degree of vital activity to kill a rabbit in two days, while that from another man's mouth kills in four days, and that from another does not kill at all, is a most interesting question, and one worthy of the attention of future experimenters. I have elsewhere suggested that the supply of pabulum may be the essential point of difference, and that, under the action of the laws of natural selection, an abundant flow of saliva may favor the development in these minute plants of a capacity for rapid multiplication, a quality which would be favorable to the micrococcus when introduced beneath the skin of a rabbit, and would have a decided influence as to the date of a fatal result. The idea that the virulence of normal saliva is due to contact with ordinary septic putrefactive material—as, for example, in the post-mortem room—is opposed by the fact that putrefaction destroys this virulence, and by the results of inoculations, in rabbits, with the sputa of phthisical patients. I have now performed this experiment a number of times, and have in no case seen any evidence of septæmia resulting from it, while the local effect of such an inoculation is limited to the formation of a small abscess containing a cheesy collection of pus.

The question is frequently asked, How does it happen that man does not suffer by auto-inoculation through accidental wounds, if his salivary secretions are infected by this deadly micrococcus?

The answer is simple. The micrococcus is deadly to the rabbit, an herbivorous animal; but carnivorous and omnivorous animals—man among the number—are not so susceptible to its attacks (*vide* Special Report, *loc. cit.*, for results of experiments on dogs, rats, and fowls).

This difference may be explained in accordance with the laws of natural selection. It is evident that carnivorous animals, and our own savage ancestors, in the remote past, in their combats and struggles for food must frequently have inflicted upon each other bites in which inoculation with saliva and the micro-organisms present in

this fluid would inevitably occur. Under these circumstances extermination of species, or a race-tolerance resulting from natural selection (survival of the fittest), would inevitably occur. This tolerance, in man, does not, however, seem to amount to absolute immunity, for "poisoned wounds" as the result of human bites, are not unknown in surgical practice; and if these do not commonly give rise to general septæmia, they not infrequently produce local inflammation of a painful and troublesome character.

A NEW LARYNGEAL FORCEPS.

BY THOMAS AMORY DE BLOIS, M.D.

THIS instrument, which was exhibited at the Fourth Annual Congress of the American Laryngological Society, held in Boston June 12, 13, and 14, 1882, is intended to be a change from the usual form of tubular forceps, so as to obviate the necessity of changing the position of the jaws of the instrument at the moment of closure.

In Schroetter's forceps the jaws are fixed to the end of a stilet, and by the retraction of this stilet are drawn into the end of the tube, thus closing them, but at the same time causing the jaws to draw back about a quarter of an inch.

In Mackenzie's tubular forceps the stilet with the attached jaws is fixed to the handle, and the tube slides over them, closing the jaws as before, but giving a motion of translation to the point instead of one of retraction.

In my instrument the jaws of the forceps are fixed to the end of the tube, which is in its turn firmly secured in the handle. A forceps-closer, moved by a wire contained within the tube, slides over the open jaws, closing and locking them without causing any derangement of the position of the instrument at any point.

The moving parts of the forceps are covered by a metal sleeve which protects them from contact with the mouth.

The stilet and attached forceps-closer are forced forward by an arrangement of the rack-and-pinion motion worked by the ring-finger, thus gaining power and making the movement with more steadiness than when pushed directly with the thumb, as in Turck's forceps.

The handle is fitted with sockets for the

FIG. 1.

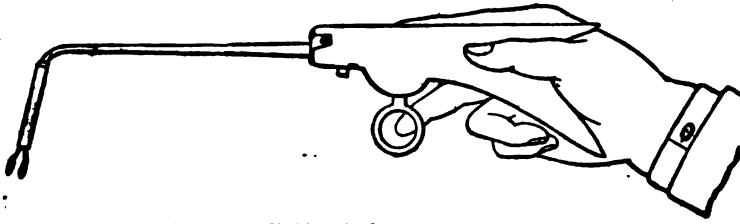


FIG. 2.

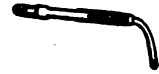


Fig. 1 represents the manner of holding the forceps.

Fig. 2 represents the jaws of the forceps closed, with the covering sleeve removed to show the moving parts.

fingers, so that the instrument may be held as one would hold a pen, and either the middle or the fourth finger is placed in the ring of the instrument. This position gives the greatest possible precision to the hand, and the least possible derangement while making traction on the ring.

In operating with this instrument, first push the ring forward to its full extent, then turn the jaws round so as to close either antero-posteriorly or laterally, according to the position of the growth in the larynx. Secondly, draw the ring a little back, so as to fix the jaws in the desired position, then grasping the instrument in the right hand, as in the cut, introduce it into the mouth with the jaws of the forceps pointing to the patient's left, turning them down after passing the tongue.

210 COLUMBUS AVENUE, BOSTON, August 12, 1882.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY OF BERLIN.

SURGICAL CLINIC OF PROF. VON LANGENBECK,
BERLIN, JULY 21, 1882.

Reported by HENRY WILE, M.D.

SUPRA-PUBIC LITHOTOMY.

THE patient was a man about 45 years old, and was troubled with bladder-difficulties for many years. Thorough examination revealed calculus, and, as far as could be determined, one of unusual size.

The supra-pubic operation, or so-called *sectio altera*, was performed, and with certain antiseptic precautions without spray, but the instruments were kept in a solution of carbolic acid, the sponges were washed in a weak solution of the same acid, and the wound was several times during the operation washed out with a weak solution of salicylic acid.

The bladder was first partly distended with lukewarm water, and a sound was introduced. Then a cut about three inches

in length was made in the median line of the abdomen. While cutting through the linea alba, from below upward, great care was exercised not to injure the peritoneum. Coming down upon the bladder, the sound was gently pushed forward, and a cut about one and one-half inches in length was made towards it into the bladder. The lips of the wound were held apart with tenacula, and two fingers were introduced into the bladder to ascertain the position of the stone, which was immediately removed with forceps. The stone was almost spherical, and about the size of a hickory-nut. A section was immediately made, and it was found to be composed of concentric layers around a nucleus of mucus. It was a mulberry-stone.

The wound and bladder were then thoroughly washed out through the urethra with a weak solution of salicylic acid. This was done by means of an irrigator, which consisted of a rubber tube attached at one end to a catheter and at the other to a tin vessel. The vessel was held above the patient, and the solution was allowed to flow through the catheter.

A drainage-tube was then placed into the bladder, through the wound, which latter was sewed up with interrupted sutures as far as the tube. No stitches were put into the bladder.

Prof. Von Langenbeck performed the supra-pubic operation in this case, because he thought the stone was of unusual size. He said he expected to extract a stone of the size of a pigeon's egg. Yet, as the event proved, it was not so large. However, he said that he often prefers the supra-pubic operation to operations in the perineum, on the ground that in the latter there is often considerable hemorrhage, and, what is more serious, certain nerves are cut which produce unpleasant after-effects, such as dribbling of urine, spermatorrhœa, and pruritus. He said that he had lately looked

over a number of cases in which a perineal cut was made, and in many of these cases the patients had returned with one of the above-mentioned complaints, especially dribbling of urine after urination, while in the *sectio altera* there were no such effects to be feared. He related cases where he had operated thirty years ago, and the patients are living and well to-day, never having experienced any trouble since the operation.

The only danger which he thought was to be feared in the supra-pubic operation was bad drainage in case of ulceration of the wound. But this he expects to avoid by keeping the patient in a permanent bath of lukewarm water until healthy granulation is established.

[The patient died of septicæmia about ten days after.]

CASE OF PUERPERAL CONVULSIONS TREATED WITH VERATRUM VIRIDE.—Dr. John Brown, of Williamsburg, Ohio, reports the following interesting case:

"Mrs. B., æt. 20 years; primipara. After passing a period of normal pregnancy, was taken in labor on the morning of the 17th of April. Dr. Lancaster, of Mt. Öreb, was called, and he told me that she had a moderately easy labor, and was delivered of a healthy child at one o'clock on the afternoon of the same day. After-birth expelled, together with the membranes, all in good time. Uterus contracted well, and bandage was applied. All was well until about an hour after delivery, when she complained of severe pain in the head, whereupon the doctor prescribed thirty grains of bromide of potassium, which was given. He went home, a distance of two and one-half miles, but had been there only a few minutes when they came for him in great haste, stating that they thought she was dying. He hurried to her, and found, upon his arrival, that she had just had a convulsion, and was in a state of profound sleep. As soon as she could be aroused, he administered a large dose of bromide of potassium, and continued to give it at short intervals. At the same time he gave her chloroform by inhalation unceasingly; but there was a recurrence of the convulsion in thirty-five minutes, and afterwards at intervals of thirty-five or forty minutes, until about seven o'clock, when I saw her. In about five minutes after I arrived, she was taken with the severest kind of convulsion, which lasted about three minutes, and was followed by the usual comatose state, which lasted about ten minutes, when she aroused and looked around in a frightened manner, asking what was the matter. Upon examination, we found her pulse 130 per minute, small and thread-like; temperature, 101°

Fahr. We gave her at once forty drops of Norwood's tincture of veratrum viride. She passed her next time for convulsion safely, and at the end of forty-five minutes her pulse was 110, with more volume and stronger. Gave her sixty drops more, which brought her pulse down to 105 at the end of one hour and thirty-five minutes from the time she took the first dose. It continued to beat at that rate until two hours and fifteen minutes from the time of last convulsion, which was not nearly so severe as the previous one, and was not followed by the usual sleep. She remained awake, but could not comprehend fully what was said to her. She was able to take sixty drops more of the tincture, the effect of which was to bring her pulse down to seventy-two regular and natural beats per minute. She remained perfectly quiet from that time on, except that at long intervals she would seem a little nervous and excited, when we would place a handkerchief saturated with chloroform to her nose, which would quiet her again. At the end of four and a half hours from last dose we gave her twenty drops more of the tincture, with one-sixth of a grain of morphia, hypodermically, and she slept well for three or four hours, when we left her in good condition. Pulse 74; temperature 98½°. She made a good recovery, and is as well to-day as usual."—*Obstetric Gazette*.

CONVALLARINE.—Professor Germain Sée has brought to the notice of the Academy of Medicine a new substance, which promises to be of great therapeutic value. It is an alkaloid extracted from the *Convallaria majalis*, or the lily of the valley. This new alkaloid has been discovered by Dr. Hardy, an eminent chemist, who also discovered the alkaloid from the jaborandi, to which he gave the name of "pilocarpine." Convallarine, the name of the new substance, has been experimented with by Professor Sée at the Hôtel-Dieu in conjunction with Dr. Hardy, of which hospital the latter is the *chef du laboratoire*. Its therapeutic action is compared with that of digitalis, for which it may be with advantage substituted, as it has none of the inconveniences attributed to digitalis. Dr. Hardy was led to make researches with this plant from the fact of its being generally used by the peasants in Russia, who employ the herb in dropsies and in all cases requiring increased diuresis. According to Professor Sée, the convallarine is a powerful diuretic, and it has a marked influence on the contraction of the heart, which it regulates, while it lowers the pulse in a remarkable manner.—*Lancet*.

A NEW VARIETY OF CINCHONA.—A new variety of cinchona—*cinchona cuprea*—has lately been offered in the market, in which Whiffen (*Pharm. Cent. für Deutschland*) has found existing an alkaloid, which he has named "ultra-chinin," to the extent of 0.1 to 0.8 per cent. Its properties are said to be analogous to those of the other alkaloids.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 9, 1882.

EDITORIAL.

THE NORTH WOODS.

THE publication of the article "Camp Lou," first in one of the magazines and afterwards in book form, caused, last year, a rush of travel to the Adirondacks which bade fair to ruin them as a playground for the comparatively few persons who really love nature in its primeval roughness and solitude. Large numbers of sick persons, totally unfit to bear the exposure of camping out, went into the wilderness, and not a few are said to have died there. Even the author of "Camp Lou," whose "cure" had made a hospital out of the woods, himself died of consumption—so, at least, it is affirmed—last winter. As a result of these unfortunate endings, or from some other cause, during the present season the North Woods have been almost empty, in the parts we have visited not more than one-third the number of people being in that were there last year.

This is as it should be. There can be no doubt of the value of the out-door life, the pure, dry air, the freedom from all personal restraint, in the treatment of suitable cases of commencing phthisis and other diseases; but in our experience it is very necessary to select the cases carefully if good is to be achieved, and also to select almost as carefully the degree of civilization fitted for each case, because from the wigwam to the modern first-class hotel are the accommodations offered by these noble North Woods, and from the bustle of the caravansary to the solitude of a primeval wilderness is the choice of companionship. To enter into details would require more space than is at our disposal, but certain

general principles may be stated as the result of a wide acquaintance with the woods and their effects upon the sick. There are three belts of territory: first, Mount Marcy and its immediate surroundings; second, the Eastern Lake District, Blue Mountain, Raquette, Big and Little Tupper, Long Lake, etc.; third, the Western Lake District, including the Fulton Chain, the Beaver River Lakes, John Brown Tract, Oswegatchie Waters, etc.

The Mount Marcy District far excels the other part in the beauty of its scenery, but can be visited only by those who are strong and well capable of much exertion. It is mostly too high for much fish or game, but it is a paradise to the pedestrian whose heart craves the pleasure of struggling up steep twenty miles a day with a fifty-pound pack upon the back, since all the food and camp-equipage for the one or two weeks' jaunt have to be fairly shouldered.

The Eastern Lake District is the place to which eight out of every ten invalids should be sent. It affords society and comfort, with a spice of the wilderness which enables the camper-out or dweller in hotel to cheat himself into the belief that he or she is "roughing it." There black bass or pickerel may be caught in abundance, and in some places even trout are plenty, whilst the very fortunate man may get a shot at a deer, if he be patient and watch long enough.

In most portions of the Western Adirondacks game is still plenty,—"game" meaning deer and trout. When the writer first went into camp this summer, bucks and does could any sunset-time be seen playing up and down the various beaches, or feeding in the along-shore shallows of the lake. But the traveller must make up his mind to really rough it, to do without regular mails, and in going in to pass over roads compared with which riding across a granite-quarry would be travelling on a selected portion of the track on the Pennsylvania Railroad. To send to this region an invalid who de-

sires soft beds, luxurious couches, or even a moderate degree of comfort, who has no great fondness for nature, and no spirit of the sportsman, but whose chief pleasure is to be found in intercourse with his fellow-men, the newspaper, and similar earthly vanities, is like trying to cure a mangled man by fastening him on the gridiron of St. Anthony.

LEADING ARTICLES.

THE ETIOLOGY OF TUBERCULOSIS.

OUR knowledge of the etiology of tuberculosis has, by the recent discovery of Dr. Robert Koch, assumed a different aspect; and if the laborious researches of a Klebs concerning the *Bacillus typhosus*, those of Von Ziemssen and others with reference to the *bacillus* of typhus, those of Pasteur regarding the *bacillus* of anthrax, those of Wood and Formad regarding the *Micrococcus diphtheriæ*, are based upon facts, the *Bacillus tuberculosis* of Koch must be admitted as perhaps the most powerful member of that dangerous class of microzymes which, in the form of spores, rods, and dots, more than decimate the "lords of the world."

But, notwithstanding the discovery of Koch is well known, the whole *modus operandi* in the detection of these bacilli, their accurate description, as well as all the observations of the industrious investigator, have been published in but a few foreign journals, others having given extracts only. But the history of these researches, and all the facts observed by Koch, as well as the conclusions he draws from them, are so very interesting that we cannot withhold them from our readers. We present, therefore, in the following nearly verbatim translation, the lecture which was delivered on the *etiology of tuberculosis* by Koch, on March 24, 1882, before the Berlin Physiological Society, and we do this the more readily as this lecture is *quasi* a review of the whole question and of the present status of modern pathology in this direction.

It was Villemin who first endeavored to prove the possibility of transmitting, by inoculation, human tuberculosis to the lower animals. This view soon found both

adherents and opponents, and for a long time a bitter fight was carried on. Until a few years ago it was a matter of doubt whether tuberculosis should be considered an infectious disease or not; but the labors of Cohnheim and Salomonsen, and, later, those of Baumgarten, who succeeded in inoculating tuberculosis into the anterior chamber of the eye, followed by general constitutional affection, and those of Tappeiner and others, who achieved the same result by the method of inhalation of the dried and powdered tubercular sputa, have at last settled this important question, and tuberculosis is now recognized by all pathologists as an infectious disease.

Statistics have proved that one-seventh of all human beings fall a victim to that merciless destroyer of the human race, tuberculosis, and that of the productive classes in middle life fully one-third die of this scourge of humanity. That public hygiene must, therefore, pay the utmost attention to a possible prevention of tuberculosis, and especially to its relation to the *Perlsucht* of our domestic animals, will fully be made clear in the following. It was mainly the latter point which induced Koch to inquire deeply into the etiology of tuberculosis.

All experiments tried so far with the view of detecting the real cause of this disease had been unsuccessful, because all the usual processes of coloring pathogenic micro-organisms failed in tuberculosis; so that all efforts to isolate and cultivate the virus of tubercle were necessarily frustrated, and Cohnheim was forced to admit, in the latest edition of his work on general pathology (January, 1882), "*that the direct proof of the tubercular virus and its tangible demonstration were a problem unsolved to-day.*"

Koch in his investigations also at first made use of the former methods, and met with the same want of success, till he at last, almost by accident, was induced to leave the beaten path, and to try another, which happily led him to positive results.

He first directed his examination to the detection of any foreign parasitic bodies which might possibly serve as pathogenics, and he really succeeded in finding, by a peculiar process of coloring of his own, in all tissues which were the seat of morbid alteration by tubercles, *characteristic bacteria until then unknown.*

The method of procedure employed by him is as follows:

The objects to be examined are first prepared in the usual way for the detection of pathogenic bacteria, and either spread, dried, and heated on the cover-glass, or cut into slices after hardening in alcohol. The cover-glasses, or the slices, are then placed in a coloring solution of the following composition. Two hundred cubic centimetres of distilled water are mixed with one cubic centimetre of a concentrated alcoholic solution of methyl-blue, and well shaken, and then two-tenths cubic centimetre of a ten-per-cent. solution of caustic potash are added under continuous shaking. This mixture must not cause any precipitate or sediment, even after having been kept for several days. The objects to be colored are left in this solution from twenty to twenty-four hours. If the coloring solution is heated in the water-bath up to 40° C., the length of time may be shortened to from one-half to one hour. A concentrated aqueous solution of *vesuvin*, which has to be filtered each time immediately before using it, is then poured over the cover-glass, which latter, one or two minutes later, is rinsed in distilled water. When the cover-glass is taken out of the coloring solution, the pathological object upon it has first a dark-blue color, the coloring being in surplus; but after treatment with the *vesuvin* solution this blue color disappears, and the specimen assumes a light-brown tint. If now placed under the microscope, all parts of animal tissues, especially the contents of cells, nuclei, and their products of decomposition, have a brown color, but the bacteria of tuberculosis appear in a beautiful blue tint. Koch found that, with the exception of the bacilli of lepra, under this process even all other bacteria take on a brown color. The contrast in color between the brown of the tissues and the blue of the tubercle-bacteria is so great that the latter are immediately recognized, even if present in very small numbers only.

In a very similar way the slices have to be treated. From the solution of methyl-blue they are placed into the filtered solution of *vesuvin*, kept in this from fifteen to twenty minutes, and then rinsed in distilled water till the blue color has disappeared and the slices have assumed a brown tint. They are then freed of their water by absolute alcohol, cleared up in

oil of cloves, and either examined under the microscope in this oil, or placed in Canada balsam. In these preparations the tubercle-bacteria also appear of a blue tint, while the tissues have a brown color.

These bacteria are, however, not only colored by methyl-blue; with the exception of brown coloring matters, they are acted upon also by other aniline colors, if made with an alkaline solution; but the bacteria appear best with methyl-blue. In the procedure described, instead of the potash solution, sodium or ammonium may be substituted, from which the deduction can be made that no importance is to be attached to the potash, but that a strong alkaline solution is absolutely necessary. It has been found that, if the percentage of the potash solution is still increased, the bacteria appear where the weaker solution did not bring them to light; but a stronger alkaline solution has such a damaging influence on the tissues themselves that it can be employed with advantage only under special circumstances, and after an earlier examination has been made with the ten-per-cent. solution.

Koch says that the bacteria so treated are very peculiar in appearance. "They have a rod-like shape, and belong, therefore, to the group of bacilli. They are very thin, and from one-fourth to one-half as long as the diameter of a red corpuscle; but sometimes they may grow to a length of fully the diameter of a red blood-corpuscle. As regards their shape and size, they are remarkably like the bacilli of lepra, but differ from them in being somewhat more slender and pointed at the ends. Besides, the lepra-bacilli are colored by the nucleus-coloring process of Weigert, while the tubercle-bacilli are uninfluenced by the same. At all points where the tubercular process is either beginning or in rapid progress, the bacilli are found in large quantities; they form then small, compact groups, sometimes arranged in bundles, frequently being met with in the interior of cells, and often presenting the same picture as the lepra-bacilli, collected in cells. But, besides, numerous free bacilli are also seen; especially on the edges of larger caseous *foci* the bacilli are observed in masses, and not included in cells.

"As soon as the acme of tubercular eruption is past, the bacilli are rarer, are met with only in very small groups or single at the edge of the deposit, while a

little farther away the blue color becomes lighter and lighter, showing evidently bacilli already dead or dying. They may disappear altogether, but this is rare; and if they are absent, it is only on places where the tubercular process has come to a stand-still.

"If giant cells are present in the tubercular tissue, then the bacilli are usually collected within them. In cases of very slowly progressing tuberculosis, these giant cells are commonly the only places in the interior of which the bacilli can alone be found. In such cases the majority of giant cells encircle one or two bacilli. The picture presented under these circumstances is in reality a surprising one: in long-continued passages of a slice, fresh groups of giant cells appear rapidly before the astonished eye; almost every individual cell encircles in its wide space filled with brown-colored nuclei one or two very diminutive blue rods, which float nearly in the very centre of the giant cell. Often the bacilli are met with in small groups of giant cells, sometimes only in single cells, while numerous other giant cells do not contain any. Then, as can be judged from their size and position, those cells which are inhabited by bacilli are young, of recent formation, while those free of these bacteria are older; and it may be supposed that once these also contained bacilli, but that the latter either died or passed over into their permanent condition, of which later more will be said. Analogous to the formation of giant cells around foreign bodies, as vegetable fibres and *Strongylus* eggs, as described by Weiss, Friedlaender, and Lanlamié, we have to suppose the relation of these cells to be to the bacilli. Undoubtedly the giant cells were formed to encircle the bacilli as foreign bodies; and if in a tubercular tissue such cells are found empty, the supposition is justified that they once contained the bacilli which gave origin to them.

"The bacilli may also be recognized unprepared by coloring. For this purpose it is necessary to examine specimens of such parts as contain large quantities of bacilli,—i.e., a gray tubercular nodule from the lung of a guinea-pig having died from inoculated tuberculosis. The object is placed with blood-serum into the hollow of an excavated slide. The bacilli appear then as extremely small rods, showing molecular motion, *but not the least self-motion*.

VOL. XII.—25*

"Under certain circumstances, later to be explained, the bacilli form spores in the animal body. Single bacilli contain then mostly two to four spores, of oval shape, and spread in equal distances over the length of the bacillus."

As regards the presence of bacilli in the different tubercular affections of men and animals, Koch has had thus far the opportunity to examine the following material:

I. OF THE HUMAN BEING.—*Eleven cases of miliary tuberculosis*.—Koch never missed the bacilli in the miliary tubercles of the lungs. Often, in such nodules, the centre of which did not receive any coloring of the nuclei any more, no bacilli could be found, but then they were met with at the margin of the tubercle in small groups, and in younger nodules, the centre of which was not as yet cheesy-degenerated, the bacilli were noted in much larger quantities. They could, besides, be demonstrated in the miliary tubercles of the spleen, liver, and kidneys. They were very numerous in the gray nodules of the pia mater in basilar meningitis. In several of the cases examined, bronchial glands, which were in a state of cheesy degeneration, contained partly large masses of bacilli, and among them many with spores, and partly tubercles embedded in the glandular tissue, with a giant cell in the centre, surrounded by epithelioid cells, and a few bacilli in the interior of the giant cell.

Twelve cases of caseous bronchitis and pneumonia (in six cases formation of cavities).—Here the bacilli were mostly found at the margin of the cheesy-infiltrated tissue only, but there they were very numerous. Also in the interior of the infiltrated portions of the lungs, nests of bacilli were sometimes noted. Usually, in most cavities, the bacilli are exceedingly numerous. The small cheesy crumbs in the cavities consist mainly of bacilli masses. Occasionally many bacilli with spores were met with in the soft, cheesy pieces of cavities. In large vomicae these bacilli were accompanied by other bacteria; but as, by the coloring process described, only the tubercle-bacilli assume a blue tint, they were easily distinguished from the others.

One case of a single tubercle (larger than a hazel-nut) *of the brain*.—The cheesy mass of the tubercle was surrounded by a tissue rich in cells. In this tissue many giant cells were embedded. Most of the latter did not contain any parasites, but here and

there groups of giant cells were met with, each of which contained one or two of the bacilli.

Two cases of intestinal tuberculosis.—In the tubercular nodules grouped around the intestinal glands, the bacilli could be demonstrated very plainly, and here also they were found especially numerous in the younger and smaller nodules. They were seen also in the mesenteric glands.

Three cases of scrofulous glands recently extirpated.—Only in two of them bacilli enclosed in giant cells were noted.

Four cases of fungoid inflammation of the joint.—Here also in two cases only, and in small separate groups of giant cells, bacilli were detected.

II. OF ANIMALS.—*Ten cases of Perlsucht*, with calcareous nodules in the lungs, in some cases also in the peritoneum, and in one in the pericardium. In all these cases bacilli were met with, and mainly in the interior of giant cells, which were present in the tissues surrounding the calcareous masses. The bacilli are generally so evenly distributed that among the numerous giant cells rarely one was seen which did not contain one or more, and sometimes as many as twenty, bacilli. In one case the bacilli were observed also in the bronchial glands, and in one other in the mesenteric glands.

Three cases in which the lungs of cattle did not present the well-known calcareous nodules with uneven surface, but smooth round nodules filled with a soft, cheesy mass. This form is usually not considered as *Perlsucht*, but as bronchiectasis. In the neighborhood of these smooth nodules, giant cells with tubercle-bacilli were noted.

A lymphatic calcareous gland of the neck in a pig contained also bacilli.

In the organs of a chicken which had died of tuberculosis, large quantities of bacilli were met with,—viz., in the tubercular nodules in the cord, and in the peculiarly large nodules of the alimentary canal, of the liver, and of the lungs.

Of three monkeys that died of tuberculosis, the lungs, spleen, liver, omentum, all thoroughly infiltrated with numerous nodules, and the cheesy lymphatic glands, were examined, and bacilli found in the nodules or their immediate neighborhood.

Of other animals suffering from spontaneous tuberculosis, nine guinea-pigs and seven rabbits were examined. *They all contained bacilli in the tubercular nodules.*

Koch investigated, besides, a large num-

ber of animals which had become the victims of tuberculosis by *inoculation*. The latter had been performed with all kinds of tubercular material,—viz., with gray and cheesy tubercles of human lungs, sputa of phthisical persons, tubercular masses of monkeys, rabbits, and guinea-pigs spontaneously diseased with tuberculosis, etc. The number of animals infected in this manner was one hundred and seventy-two guinea-pigs, eighty-two rabbits, and five cats. Their investigation had to be confined to the tubercular nodules of the lungs. *In all these the bacilli were not a single time wanting.*

That the bacilli had never been found before, Koch explains by the fact that the bacilli are so exceedingly small and generally only few in number, especially when their presence is confined to the interior of giant cells, when they necessarily will escape the most patient observer, unless they have been colored by the process described. Koch further mentions that Schüller had already noticed micrococci in tubercular nodules, and that Klebs and Aufrecht (in his pathological communications) say that they had seen, besides micrococci, very small and short rod-like formations. These investigators never imagined, however, that these were the pathogenic bacilli of tuberculosis, as, in consequence of their not being able to show them by the coloring process, they met with them rarely only.

"Based upon my very numerous observations," says Koch, "I consider it proved that in all tubercular affections of men and animals these tubercle-bacilli are present, which have been described by me, and which are distinguished from all other micro-organisms by the peculiarities mentioned. But this coincidence of bacilli and tubercular affections does not permit the conclusion as yet that these two appearances (bacilli and tubercles) are necessarily in causal connection, though the probability for this assumption becomes great from the fact that these bacilli are found especially where the tubercular process is in its beginning or in progress, while they disappear where the disease has come to a stand-still."

To prove, however, that tuberculosis is a parasitic disease, which is caused by the immigration of bacilli, and which is progressing *a priori* by the growth and propagation of these micro-organisms, Koch undertook to isolate the bacilli from the

body, to propagate them by *pure-culture* until they were freed from any possible morbid product derived from the animal organism, and at last, by transferring the isolated bacilli to healthy animals, to bring about the same morbid process of tuberculosis, of which experience has demonstrated that it is produced by inoculation of tubercular material of natural origin.

The principle of the method made use of for this purpose by Koch was based upon the employment of a *solid*, transparent culturing soil, which even at breeding temperature would retain its solid consistence. The known advantages of the method of pure-culture, introduced by Koch for the investigation of bacteria, enabled him to solve the difficult problem of the pure-culture of the tubercle-bacilli.

Serum of cattle-blood or of sheep-blood, as pure as possible, is poured into a perfectly aseptic reaction-glass, closed by a stopper of cotton wadding, and for one hour daily during six days heated up to a temperature of 58° C. By this method, if not always it is at least mostly possible to make the serum perfectly sterile. It is then heated to 65° C. for several hours, and until it just becomes stiffened and solid. After this treatment, the serum appears as an amber-yellow, perfectly transparent or only slightly opaque, solid, gelatin-like mass, which, even if for several days continuously exposed to the breeding temperature, must not show the least development of bacteria. If the temperature is above 75°, or the serum exposed to it too long, the latter becomes totally transparent. To get for the culture a surface as large as possible, the serum is allowed to stiffen while the reaction-glass is held in the most slanting position. If the culture has to be ready for immediate microscopical examination, the serum is stiffened in a watch-glass.

Upon this stiffened blood-serum, forming a transparent soil, which at breeding temperature continues solid even, the tubercular material is placed in the following manner. We mention first as a condition *sine qua non*, as of paramount importance, that every instrument whatever used in this procedure must at first have been made thoroughly aseptic by exposing it to white heat. The experiment will succeed almost in every case, if an animal is at disposal which has just died of tuberculosis or has

been killed for this purpose. The skin over the chest and abdomen is first dissected off, the ribs are then separated, the anterior wall of the thorax removed without opening the abdominal cavity, and the lungs laid bare. The instruments are now again changed for others, disinfected in the same manner; single tubercular nodules, or parts of them, of the size of a pin's head are quickly cut out, and carried with the aid of a previously thoroughly heated platinum wire, inserted into a glass rod as handle, upon the culturing soil in the reaction-glass. The stopper of cotton wadding must be removed only for as short a time as absolutely necessary. In this manner about six to ten glasses are provided with tubercular material, such a number being necessary, as with the utmost caution some accidental impurities cannot always be avoided. Lymphatic glands, the cheesy degeneration of which has just begun, can be made use of as well as tubercular lung-nodules; pus of softened glands, however, will not answer, rarely containing bacilli.

More difficult is the culture of bacilli from human tubercular organs, or from a lung the seat of *Perlsucht*, as these often contain many septic bacteria. Frequent rinsing with solutions of corrosive sublimate may prevent their admixture.

The reaction-glasses, provided in the manner described with tubercular material, are then placed into the perfectly aseptic breeding apparatus, and kept constantly exposed to a temperature of 37° to 38° C. During the first week no change can be noted. But should a change take place within the first few weeks and bacteria develop themselves either on the tubercular material or even at a distance from it,—generally to be recognized by white, gray, or yellowish drops, often also by the serum becoming liquid,—then impurities have been present and the experiment has been unsuccessful.

The cultures caused by the growth of the tubercular bacilli appear to the naked eye in the second week, generally not before the tenth day, as very small dots and dry scales, which encircle the tubercular particle in a larger or smaller circle according as the tubercular material has been spread more or less over the whole culturing soil. If only a few bacilli have been present in the original seed, it is hardly possible to separate them from the tissues and to plant them immediately

upon the culturing soil; while this can easily be done if the bacilli have been numerous. One notes, for instance, in particles of scrofulous glands, dark and white dots, their color depending upon the direction of the light. With the aid of a magnifying-glass (thirty to forty times) the bacilli-colonies can be recognized by the end of the first week. They appear as *very neat, spindle-shaped, and mostly S-formed structures*; also in other similar shapes, which, when spread on the slide, colored, and placed under a powerful microscope, consist only of extremely fine bacilli. To a certain degree the growth of these colonies progresses in the course of three to four weeks; they enlarge and become flat, scale-like pieces of nearly the size of a poppy-seed; they lie loose on the culturing soil, and never penetrate of themselves into the latter or liquefy the same. The colony of bacilli forms, besides, such a compact mass that the small scale can easily be lifted from the stiffened serum as a whole and unbroken. In reality a certain pressure is necessary to break them. The remarkably slow growth, possible only at breeding temperature, then the peculiarly scale-like, dry, and solid consistence of these bacilli-colonies, is not met with in any other known kind of bacteria, so that mistaking tubercle-bacilli for others, or not recognizing any impurity, is almost an impossibility after a very little practice. The growth of the bacilli ends after a few weeks, and a further enlargement of them probably does not set in, because *the tubercle-bacillus possesses no self-motion whatever*, and the process of growth alone changes slightly their position on the culturing soil, and this takes place only in very small dimensions, on account of the very slow propagation of the bacilli. To keep such a culture going, it is necessary to place it, after about ten to fourteen days, upon a new culturing soil. This is done by taking up a few scales with the disinfected platinum wire and carrying them to a fresh, sterile, and stiffened blood-serum contained in a reaction-glass, where they are spread as much as possible over the culturing soil. Here again, in the same length of time, scale-like dry masses form. In this way the cultures are carried on. Other culture-soils might be prepared, but this is the easiest and most practicable.

In the beginning Koch took only the tubercle-bacilli from the lung-tubercles of

guinea-pigs infected by tubercular masses. He found them most developed in the lungs, and less in the abdominal organs. Koch also observed that, if several healthy guinea-pigs were kept in the same box with those infected by tubercular inoculation, the first soon became affected also, and the swelling of the bronchial glands and the beginning of the process in the respiratory organs proved to him that *the spontaneous tuberculosis* of these animals was due to *inhalation* of tubercular matter, developing itself from one or two bacilli perhaps only, and progressing, therefore, in general so very slowly.

The fact is well known that if of married persons, sleeping together in one bed, one dies of tuberculosis, the same disease, attacking the surviving husband or wife, generally develops a comparatively long time afterwards, and very gradually, and progresses very slowly. The observation made by Koch would tend to explain this slowness and want of activity.

Different is the result of inoculated tuberculosis. The inoculation was generally performed in animals on the abdomen near the inguinal glands. The latter first commenced to swell, and gave, therefore, an early and very reliable indication of the success of the inoculation. Here the disease—as from the beginning a greater quantity of the infectious material was introduced into the system than can be done by inhalation—runs a far more rapid course than spontaneous tuberculosis, and on dissecting such animals, the spleen and liver were always found to be far more attacked by the tubercular process than the lungs.

According to Koch, it is, therefore, not difficult to recognize, in animals selected for experiments, those affected with spontaneous and those suffering from inoculated tuberculosis.

Employing every possible caution (previous disinfection of the integument, use of disinfected instruments, etc.), at one and the same time four to six guinea-pigs were inoculated in the manner described with the tubercular material, the virulence of which was to be determined. *The success was always the same uniform one*; in all animals which had been inoculated with fresh particles containing or rather consisting only of tubercle-bacilli, resulting from pure-culture, the small wound made by the inoculation was generally glued to-

gether by the following day; it remained the first eight days unchanged; then a small nodule formed, which either enlarged without bursting, or, as usually happened, was transformed into a dry, flat ulcer. Two weeks after inoculation the inguinal glands on the side of the wound, and sometimes also the axillary glands of the same side, were swollen to the size of a pea. From that time the animals rapidly emaciated, and either died within from four to six weeks or were killed to prevent any possible complication by spontaneous tuberculosis.

That in these cases the tubercular infection was caused by the inoculation alone of the tubercle-bacilli can, according to Koch, be proved from the fact that, *while without exception each of these animals was within four weeks tuberculous in a high degree*, in a large number of experiments where the inoculation was performed with particles containing *no* tubercle-bacilli, as pieces of a scrofulous (not cheesy) gland, fungoid masses of a joint, lung-tubercles of a monkey which had been dried in extreme heat for the time of two months, and such as had been kept one month in alcohol,—in all of which the absence of the bacilli had previously been verified,—*not a single* animal showed any signs, after four weeks had passed by, of having become affected with tuberculosis.

Of such guinea-pigs as had been infected by inoculation with tubercles of the monkey's lung, with miliary tubercles of the brain and lungs of men, with cheesy masses of a phthisical lung, with tubercular nodules of the lung and the peritoneum of cattle affected with *Perlsucht*, *cultures of tubercle-bacilli* were then instituted. It was found that, just as the picture of the disease caused by the different enumerated substances in the guinea-pig is invariably the same, the cultures of bacilli derived from the different cases did not differ in the least from one another.

Altogether fifteen such pure-cultures of tubercle-bacilli were made,—four of guinea-pigs inoculated with monkey-tuberculosis, four with *Perlsucht*, and seven of guinea-pigs inoculated with human tubercular matter.

But to exclude the objection that by the preceding inoculations of the tubercular masses in guinea-pigs a possible alteration in the nature of the bacilli might have been produced, making the formerly different

organisms *quasi* alike, Koch endeavored to culture the tubercle-bacilli immediately from such by tuberculous spontaneously diseased organs of human beings on animals. These experiments were a number of times successful, and pure-cultures were obtained from two human lungs with miliary tubercles, from one such lung attacked by caseous pneumonia, twice from the contents of small cavities of phthisical lungs, once from cheesy mesenteric glands, and twice from scrofulous glands recently extirpated; further, twice from the lung of a cow suffering from *Perlsucht*, and three times from the lungs of guinea-pigs attacked with spontaneous tuberculosis. *These cultures also were exactly alike*, and also those which were carried first through guinea-pigs inoculated by them, so that the perfect identity of all bacilli met with in all different tubercular processes cannot be doubted.

In reference to these pure-cultures Koch mentions also that he could state, contrary to Klebs, Schüller, and Toussaint, who in their culture of micro-organisms from tubercular masses found that the culture-fluids, after their infection with tubercular material, became opaque from two to three days later and contained many bacteria, that the tubercle-bacilli in a fluid grew very sparingly only, that such a fluid does not become opaque, as the tubercle-bacilli possessed no self-motion, and that if a growth did take place, it did so only after three to four weeks, so that the conclusion is evident that the investigators named had made their experiments *with other organisms*, but not with tubercle-bacilli.

Koch's observations have demonstrated, therefore, *that the presence of characteristic bacilli is regularly connected with tuberculosis, and that the bacilli can be taken from tubercular organs and be isolated in pure-cultures*. The important question had still to be answered, if the isolated bacilli, when again introduced into the animal body, were capable of reproducing the same morbid process of tuberculosis. To exclude in the solving of this question—the chief purpose of all investigations of the tubercular virus—any possible errors, many different kinds of experiments were instituted, the details of which may be imagined from the preceding.

Koch instituted first a series of experiments with simple inoculation of the bacilli in the manner described, by which it

was found that, if the inoculation was made in the neighborhood of the inguinal glands, the morbid process following was exactly the same as the one mentioned above as taking place after the animals were inoculated with fresh tubercular masses.

In other experiments the bacilli were inoculated into the anterior chamber of the eye of guinea-pigs, to note if the same effect would result with the artificially developed tubercular virus as when the natural virus was used. It was found that, if the smallest possible number of bacilli were employed, the result was the same as the one reported by Cohnheim, Salomonsen, and Baumgarten, who experimented with natural tubercular masses. Notwithstanding these convincing proofs, Koch instituted still other experiments, injecting the bacilli-cultures into the abdominal cavity or directly into the circulation, and, lastly, he tried these experiments also on those animals (rats, rabbits, and dogs) in whom infection with tuberculosis is not easily successful. He found that there was no difference in the condition of the lung or the other organs of the animals infected with the different cultures; *in all animals* numerous miliary tubercles were noted in the lungs; also the liver and the spleen of all these animals contained extraordinarily many tubercles; but in those that died first, these tubercles were microscopically small; in those that died later, they were visible to the naked eye; and in one rabbit there were met with also in the omentum, the diaphragm, and the mesentery miliary tubercles recognizable with the naked eye. *Two control-animals* were dissected, and in no organ was there seen any tubercular deposit.

Frequently the tubercular nodules, which had been caused by vaccination as well as by injection of the bacilli-cultures, were examined with the microscope and found perfectly identical with the tubercles which are usually met with in animals affected with the common spontaneous tuberculosis, or with tuberculosis developed after inoculation with tubercular material. Their structure and everything was alike. From these nodules again bacilli-cultures were instituted, and these again employed for inoculation. The result was always the same: the same general tuberculosis followed.

"Reviewing all these experiments," says Koch, "I find that of the large number

of animals to whom the bacilli-cultures were transmitted in very different ways,—by simple injection into the areolar tissue, by injection into the abdominal cavity, or into the anterior chamber of the eye, or by direct injection into the circulation,—all without exception became tuberculous, and not only single nodules developed themselves, but the extraordinarily large number of tubercles corresponded to the great number of the germs of infection introduced in this manner into the system. In other animals, by inoculating the smallest possible number of bacilli into the anterior chamber of the eye, I succeeded in producing the same tubercular iritis which was the result of the inoculation of genuine, natural tubercular material, as performed by Cohnheim, Salomonsen, and Baumgarten."

Koch demonstrates clearly by control-animals, and by the whole aseptic method of procedure, that a mistake with spontaneous tuberculosis or an accidental, unintentional infection of the animals experimented upon with tubercular virus is totally excluded, and that he is justified therefore in contending—

That the bacilli met with in the tubercular material are not accompanying the tubercular process, but the cause of the same, and that we possess in the tubercle-bacilli the actual tubercular virus.

"And so," concludes Koch, "we have gained at last the necessary knowledge to define exactly the disease which we understand by 'tuberculosis,' a thing impossible before. A definite criterion for tuberculosis was wanting: one considered miliary tuberculosis, phthisis, scrofulosis, *Perlsucht*, etc., all one and the same morbid process, while another, with equal right, took them to be different maladies. In future, it will not be difficult to say what is tuberculosis and what not. Not the peculiar structure of the tubercle, not its want of blood-vessels, not the presence of giant cells, will determine the question, but the demonstration of tubercle-bacilli either in the tissue by color-reaction or by culture upon stiffened blood-serum. Considering this criterion as a guide, we have, according to my investigations, to believe miliary tuberculosis, caseous pneumonia, cheesy bronchitis, tuberculosis of the intestines and of glands, *Perlsucht* of cattle, spontaneous and inoculated tuberculosis of animals, all to be identical. As regards

scrofulous and fungoid affections of joints, my investigations have not as yet been numerous enough to enable me to form a judgment. Undoubtedly a large part of scrofulous affections of glands and joints belong to genuine tuberculosis. The fact of my having found tubercle-bacilli in the caseous glands of a pig, and in the tubercular nodules of a hen, seems to justify the idea that tuberculosis is spread more among our domestic animals than is generally supposed, and it would be very desirable to investigate this subject still further."

Koch endeavors also to answer the question, Whence come these parasites, and how do they get into the body? He reminds us that the tubercle-bacilli grow only at a temperature of 30° to 40° C., while below 30° and above 42° within three weeks no growth was noted, while, for instance, the bacilli of anthrax grow decidedly even at 20° , and between 42° and 43° C., and he comes to the conclusion that, as in moderate climates outside the animal body no temperature above 30° C. ever continues evenly for two weeks, the bacilli are confined for their process of development and growth to the animal organism, and that they are therefore not accidental but genuine parasites, and are derived from the animal organism.

As regards the second question, Koch draws our attention to the fact that the vast majority of cases of tuberculosis have their beginning in the respiratory passages, and that the infectious material becomes first apparent in the lungs or in the bronchial glands, so that the idea lies near, *that the tubercle-bacilli are usually inhaled with the atmosphere, being attached to dust-particles.* The manner in which they get into the air is made plausible if we remember in what enormous quantities the tubercle-bacilli, which are sojourning in the cavities, are expectorated by phthisical persons with their sputa, which are wafted in all directions.

To get an idea of the presence of tubercle-bacilli in such sputa, Koch has frequently examined those of a large series of consumptives, and found that, while some sputa contain none, in about half the cases these sputa are the seat of an enormous number of bacilli, among which were many with spores. It must further be mentioned that Koch never was able to detect these bacilli in the sputa of non-phthisical persons, not-

withstanding he examined about an equal number of such. Animals inoculated with such fresh sputa, containing bacilli, became just as surely tuberculous as if inoculated with miliary tubercles. But even the process of drying did not deprive such sputa of their virulence.

Four guinea-pigs became just as tuberculous by inoculation of sputum dry and two weeks old, four others by such four weeks old, and four others by such eight weeks old, as after infection with fresh material.

Koch draws the conclusion from this that dry phthisical sputa sticking to the floor, clothing, etc., keep their virulence for a long time, and if inhaled as dust into the lung may cause tuberculosis. He thinks that the duration of virulence depends upon the formation of spores, which goes on in the animal organism, and not outside of it, as is the case with the bacillus of anthrax. *The period of latency seems to be from ten days to three weeks.*

Concerning *acquired and inherited* disposition, Koch does not wish to give his opinion as yet, as his investigations in this respect have not been concluded as yet. He only says that we should remember the *very slow growth of the tubercle-bacilli*, and that if they are not directly introduced into the system they will not develop further and will not cause tuberculosis. If placed on a superficial wound in the skin, or upon the cornea, they will very exceptionally only induce general affection. Possibly there must be in the usual way of infection certain conditions favoring the infection, "the nestling of the bacilli," as stagnant secretions, a peculiar morbid alteration and *dénouement* of the mucous membrane of its protecting epithelium, etc. Otherwise it could hardly be explained, why every human being does not fall a victim to that disease, especially in densely-populated districts.

We only hope that these laborious researches of Koch will soon cause favorable therapeutical results, and first of all preventive measures. We must see that the great source of infection—the sputa of phthisical persons—is done away with by their immediate destruction, and by preventing their being drifted away with the air. We must further prevent the eating of meat of domestic animals affected with any form of tuberculosis, and pay especial attention that the milk of such cows is not brought into commerce.

One thing is certain: public hygiene has now made such immense progress that no civilized government can well exist without having medical men as advisers in professional matters. The United States of North America is the only civilized nation where the machinery of government is not provided by law with a board of medical counsellors. The Department of the Secretary of the Interior of the national government, and of every one of our States, should have two great subdivisions,—one for educational and one for medical affairs.

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LONDON LETTER.

THE great event of the medical profession at the present time has been the Jubilee Meeting of the British Medical Association in the city of its birth, Worcester, on the Severn. When Ceawlin and his Wessex men first pushed up the valley of the Severn they noticed how fertile a plain it was. The old Cymri knew that as well as the invaders, and fought hard to keep it. In later times Worcester was one of the loyal towns of the Welsh Marches, and has the name of "the Faithful City," for its fidelity to the royal cause. The Scots of the Stuart dynasty always aimed at reaching Worcester, and here one of the decisive battles of Oliver Cromwell was fought. After his victory the prim old Puritan stabled his horses in the beautiful chancel of the cathedral, in which lie the remains of King John, the worst of the Angevin kings of England. In Worcester, fifty years ago, dwelt Charles Hastings, the son of the worthy centenarian vicar of Martly. He lived a life of usefulness, crowned by his founding the British Medical Association. At first it was the *Provincial Medical and Surgical Association*, to give to provincial medical men the opportunity of meeting and interchanging views and opinions, as was done in the metropolis. Fifty of the leading men of the Midlands and the West gathered together at the call of Hastings, who read a paper on the object of the Association. The first President was Dr. Johnson, of Birmingham. With Hastings were associated Dr. Kidd, Professor of Physic at Oxford, Dr. Corrie, of Birmingham, Dr. Conolly, of Cheltenham, Mr. Soden, of Bath, Dr. Evans, of Ross, Mr. Hellings, of Bristol, and others. The Association held its meetings year by year in various provincial towns, and it was not till 1862 that it visited the metropolis. Dr. Hastings was ultimately knighted for his various services to the public. He lived

to watch over his promising bantling till it numbered two thousand five hundred members when it met at Chester in 1866. Since then it has grown to four times that size. At first its proceedings were recorded in a volume of Transactions, but this in time gave place to the present "*British Medical Journal; being the journal of the British Medical Association.*" Some years ago it became an incorporated society for business purposes. Its growth justifies the wisdom of the original founders, and shows that they knew what they were doing. Its great utility in the calling of men together from all parts of the kingdom, so that personal acquaintance welds the body into a solid whole, is admitted by all. At first it struggled on in dire poverty, in debt, indeed, and somewhat despised. In part it had outgrown the original aim. Hastings was gone, and the other men did not quite know how to steer the bark.

The admission of the metropolis altered its primitive character; its editor now lived in London, its journal was published in London, while its metropolitan element was throwing the original provincial element into the background. But this Jubilee Meeting promises to restore to the Association its provincial character. Last year the meeting of the International Medical Congress dwarfed the Association's meeting to a small gathering at Ryde, in the Isle of Wight, under the presidency of Benjamin Barrow, a man proportioned to the dimensions of the meeting. This year Mr. Barrow once more emerged from his wonted obscurity to show himself in public and introduce his successor, Dr. Strange, of Worcester, a man of larger growth, to preside over a more important gathering. Dr. Strange commenced his address by bidding all welcome to "the Faithful City," of which it is said, "the girls of Worcester are poor, proud, and pretty." He gave a sketch of the masters of medicine in the old time, and then onward. His sketch of the provincial medical man at the time of the founding of the Association was, in his own words, as follows: "With the exception of a few local physicians of the older stamp, solemn, scholarly, and formal, and here and there an apothecary of more than ordinary acuteness of observation, there existed one dead level of mediocrity,—men without the ambition to compete with their metropolitan brethren, because the means of doing so were denied them. No sparks of genius emanated from their brains, because there was no mental friction to produce them. No doubt it was the superior education of the general practitioner that made literature distasteful to him, and scientific attainments rare, whilst the desire for improvement, which might casually arise, found no field for action. So he settled down into the mere copier of other men's prescriptions, and the collector of current nostrums for certain symptoms. Bundles of prescriptions were handed down from one

practitioner to another along with the practice. Having no other idea than that disease was an entity, he set to work to drive it out of the system by the popular means of bleeding, purging, and sweating." He then paid an appropriate tribute to the *Lancet* for what it had done for the profession. Dr. Strange, it seems, is as little satisfied with the metropolitan consultant of to-day as with the rural practitioner of fifty years ago. This is what he thinks of the class to which the writer belongs: "And then as regards consultants. Do we not recognize a solemn farce when Mr. A. or Mr. B. returns from consulting, say some metropolitan celebrity, and tells us that Dr. C. has laid down all the rules for his future life, and indicated this or that health resort as essential to recovery, and all in ten minutes' time, and for a fee of a guinea? The issues of life and death in the case of a stranger, never seen before, solved in a ten or fifteen minutes' interview, and all for one guinea! Why, a lawyer would take six weeks to do the same amount of work, and charge a bill of fifty pounds." He hit a weak spot there. Grave issues ought to have full deliberation given them, that is only fair to the patient, and the doctor should be paid accordingly, that is but just to the doctor, only most of us do not dismiss a case in fifteen minutes, and certainly we do not take one guinea, except where we have reason to believe the patient's means are limited; and we further assert the right of private judgment, to take no fee at all if we think proper. Then he went on to say, "The public likes to be bequacked, and bequacked it will be:" so the public are no more enlightened than the profession! He then urged "a more intimate connection between the branches of the Association and the governing body, so that the committee of council would become in fact, as it now is in theory, really and perfectly representative,"—a little slap at the committee of council quite called for by the existing state of affairs. Then followed the annual report, read by the Secretary, which told of the material prosperity of the Association, the increase in its members; indeed, all was rosy without, however things might be within. The first meeting concluded with a discussion on the position of homœopaths and their relation to the Association. There was to have been a lively scene on the term of office of the editor. I had given notice a year before that I should move an alteration of a by-law, so that the editor be elected for five years, leaving him eligible for re-election if approved. Of course the friends of the editor were prepared to oppose this: so they fixed the first night for the discussion of the question. This seemed to me unwise, and that it would be better to let the members have time to talk the matter over among themselves before they formally voted on the matter. So I wrote accordingly. But the powers ruled that a time had been given me, and if

it was not kept, so much the worse for me and my motion. Knowing I would not be present, my name was called. Next morning I presented myself before the President in general meeting to explain my non-appearance, but before I could finish my brief explanation the president of council ruled me out of order, and the retiring President shouted me down with, "You are out of order!" Such interruption was rude, to put it mildly; but of course it is useless to proceed when people are not disposed to behave like gentlemen, so I retired gracefully. It appeared that a trap had been laid: a number of men had been brought from long distances to speak against the motion, and all were ready for disposing of the matter most effectually before the bulk of members had had time to comprehend the scope and bearing of the motion. The wrath of the disappointed faction is intelligible, as it still remains to bring it on next year, with this advantage to me, that the members did talk the matter over thoroughly, and all will be prepared on the side of the amendment as well as its opponents next year at Liverpool.

The address on Medicine was given by Dr. Wade, of Birmingham, in which he reviewed the progress of medicine since the foundation of the Association. He took the line of the improvement in practice caused by the progress of science, and that improved methods of observation required better mental training and a corresponding development of the mind. Not only was positive improvement so brought about, but great negative results followed in the avoidance of much that was harmful. In fact, he took a common-sense view of the present position of medicine.

Then came the great jubilee event of the meeting,—viz., the presentation of a bust of the late Sir Charles Hastings to the mayor and corporation of Worcester by the Association which he founded. This was done after a handsome collation given to the visitors by the Worcester and Hereford branch of the British Medical Association. When the memory of the founder was drunk, the toast was responded to by his son, Mr. Hastings. M.P. for the eastern division of the county. It was a handsome bust in marble by Mr. Brock, a Worcester artist. When Sir Charles Hastings died, a memorial fund was raised for a gold medal to be given annually by the Association for the best essay sent in on a given subject. It was awarded first to Dr. Thudichum, then to Furneaux Jordan, of Birmingham, then to Mr. Barker, of Bedford (dead), then to J. Milner Fothergill, and lastly to Lawson Tait, of Birmingham. The essays so rarely attained to the high-water mark required for the medal that the thing was abolished some years ago. The accumulations during the last few years were invested in the marble bust,—a very fitting use of it. (One of the other original founders of the Association was Dr. Malden, of Worcester, a man of much genial humor

as well as professional skill. A story is told of him that when the question of changing the fee from a guinea—a coin become obsolete—to a sovereign—the new coinage—was being discussed, the doctor took a way of his own of looking at the question. Holding betwixt finger and thumb a sovereign and a shilling, he said, "Mr. President, these coins were brought up together from their infancy, they have been associated in their youth, and now they must be considered as lovers," quoting from Thomson about Celadon and Amelia. "Hers"—the shilling—"the mild lustre of the blooming morn, and his"—the sovereign—"the radiance of the risen day, Mr. President, let no such lovers be parted." This touching allusion carried the day, and the proposed divorce betwixt the pound and the shilling was never pronounced. Had another decision been arrived at, the profession would have suffered a distinct and appreciable loss.) Hastings was a man of marked character, keen to observe and prompt to act. His mental operations were of such sound character that almost as soon as his student-life was concluded he was offered the chair of Physiology in his Alma Mater, the University of Edinburgh. Rejecting the brilliant career thus offered to him, he decided to settle in Worcester in practice. Even in those days the question of public health attracted his attention, and when the first outbreak of cholera occurred at Worcester he had the inhabitants of the poor neighborhoods, which bore the brunt of the scourge, removed outside of the town, where tents and booths were prepared for their reception. He saw the dead promptly buried, and their houses disinfected; indeed, he stood "betwixt the living and the dead," like the prophet of old. Not only was he a wise physician of advanced views, but he was no mean naturalist; and as a geologist, and the friend of Murchison and Sedgwick, he first pointed out the geological structure of the Malvern Hills, and of the salt-strata of the Droitwich salt-mines, the most important salt-industry in England, dating back to the Dark Ages. After this followed the Section meetings, where the serious work of the gathering goes on. In the Medicine Section, Clifford Allbutt, of Leeds, presided; in Surgery, Augustin Pritchard, of Bristol; in Obstetric Medicine, Prof. Leishman, of Glasgow; in Public Medicine, Alfred Carpenter, of Croydon; in Anatomy and Physiology, Prof. Humphry, of Cambridge; in Pathology, J. Hughlings Jackson; in Ophthalmology, Vose Solomases, of Birmingham; and in Otology, Laidlaw Purvis, of Guy's Hospital. Addresses were delivered by these gentlemen, and then the discussions proceeded.

The subjects mainly discussed were, the Treatment of Aggravated Hysteria and allied Neurasthenic Disease, in which Dr. Playfair took a leading part. A discussion on Diabetes also went on in the Pathology Section. In

Surgery the great discussion was held on the Early Operative Treatment of Joint-Disease as a Preventive of Excision, in which many able surgeons took part. A lesser discussion went on on Bone-Setting. Subinvolution of the Uterus, its Causes, its Relation to Uterine Disease, and its Preventive Treatment, occupied much of the time of the Obstetric Section. In the Public Health Section the Alcoholic Question was brought forward by the irrepressible teetotaler, Norman Kerr; while the subject of the Notification of Infectious Disease was duly considered. Senile Cataract was ventilated in another Section; Auditory Vertigo, in another, and the Relation of Disease of the Ear to General Medicine. Papers of interest on other matters were also read. In the evening a grand oratorio was given in the cathedral, Worcester being famous for its musical festivals.

On Thursday morning work commenced by an address on Surgery by Prof. Stokes, of Dublin, the worthy son of an illustrious father. It is impossible to give any sketch of the address here: it was excellent in matter, well delivered, and listened to with the respectful admiration of a crowded audience. He paid a graceful tribute to Mr. Carden, of Worcester, who introduced the "single-flap" operation in amputation. He reviewed the present position of Listerism, and pointed out how surgery was hampered by the recent Vivisection Act. Then came more Sectional work; and, in the evening, the annual dinner of the Association, when Sir James Paget made the speech of the festive occasion, speaking with his usual silvery eloquence. On Friday morning came the first ominous rumble of a thunder-storm which it is promised shall break over the Association at its meeting next year in Liverpool, in the discussion on the compulsory notification of infectious disease by medical men, a matter to which I propose to devote my next letter; all the more important because in last week's number of the *British Medical Journal* appears a notice of a proposal, by Lewis Sayre, to have a Journal for the American Medical Association, in imitation of ours. Then followed the ceremonial formalities, the votes of thanks to each other for their self-denial, their unparalleled exertions, which courteously finish off the annual meetings as a matter of course. Soon all found their way to Madresfield Court, the seat of Earl Beauchamp, a "moated grange" under the shadow of the Malvern Hills. Here were beautiful grounds, along which the members of the Association, with their accompanying ladies, strolled to the sounds of sweet music, while a tent of ample dimensions offered fruit and cool drinks for those who wished them, and the heat and dust made such refreshments very grateful. In the evening was a *soirée*, where three times as many people were invited as Shire Hall would hold, to the crowding of all, visitors and natives alike.

Next morning the excursions drew off many of the members. Some went to Malvern, where a local archæologist discoursed of an old British camp on the top of one of the little peaks of the local Malvern group of hills, which seem formed by nature to serve as places for beacon-lights over a glorious plain. Others went to the river Wye, the beautiful western tributary of the Severn, alike attractive to sight-seers and anglers. A third party went eastward to Stratford-on-Avon, to see the humble home of Will. Shakspeare, now rescued from decay; on to the mighty home of the Earl of Warwick, the hero of the Wars of the Roses, towering over the Avon; to the more recent health resort, Leamington; and to the ruins of Kenilworth, where Amy Robsart pined till a mysterious accident was fatal to her, while Queen Bess occupied the mind and commanded the time of her husband, Robert Dudley. After this the meeting melted away, having visited all that Worcester could show them.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

AMERICAN DERMATOLOGICAL ASSOCIATION.

THE Sixth Annual Congress of the American Dermatological Association, which has just finished its session at Newport, was very satisfactory as regards the attendance, and very successful as regards the number and high standing of the papers presented. It held two daily sessions on August 30 and 31, and one on September 1.

Dr. J. Nevins Hyde, of Chicago, President of the Association, besides delivering an annual address, read a paper on "Papillary Dermatitis of the Hairy Scalp," in which he reported several cases of a rare form of skin disease situated at the junction of the back of the neck and the scalp. The surface, though swollen, does not appear diseased, but the patch, which rarely exceeds the size of the palm of the hand, is distinctly circumscribed. Puncture of the part gives exit to a considerable quantity of pus, followed by a gummy fluid tinged with blood. The disease is non-parasitic, and appears to be due to an inflammation of the follicles of the skin at the part named.

Dr. C. Heitzmann, of New York, read two papers, one on "Myxo-Angioma of the Skin," and the other on "Ergot in some Forms of Skin Disease." The first referred to a very common vascular growth which contains new vessels and is therefore a true angioma. The superficial form also contains homogeneous substance, plastids, granular matter, etc., which the author regarded as myxomatous. The treatment advocated was extirpation with the scissors when the growths project, and the

application of lunar caustic to the base, or smoking nitric acid applied directly, when the growth is sessile. Electrolysis was also recommended. In the second paper the use of ergot was highly commended in pruritus, acne, and some other forms of skin disease, given in half-drachm doses of the fluid extract several times a day.

Dr. Robert W. Taylor, of New York, read some "Notes on Psoriasis," in which he reported that he had traced in about one-fourth of his cases a syphilitic history in one or both parents, as had been suggested by Erasmus Wilson. He submitted the question for further investigation by members of the Association.

Dr. George A. Rohé, of Baltimore, reported two cases coming under his observation, where general psoriasis had followed vaccination with bovine virus.

Dr. Henry G. Piffard, of New York, in a paper on "Calx Sulphurates," endorsed the statement of Ringer that acne can be successfully treated with sulphide of calcium. He stated that the dose ordinarily should not be over one-eighth to one-sixth grain: he thought failures had occurred from giving it in too large doses. He also pointed out that the composition of the drug was very variable, and some specimens he had examined had contained little or none of real calcium sulphide, although dispensed for it by the druggists. He also had good success in the treatment of eczema in children and in non-specific sycosis in adults. As a remarkable fact, he had observed that in a diabetic patient the sugar completely disappeared while he was taking the remedy.

Dr. William A. Hardaway, of St. Louis, reported a curious case of pigmented neoplasm of the skin, and exhibited a full-sized painting of the patient, showing the appearance of the disease. It was not syphilitic, although the staining first appeared after large doses of iodide of potassium had been taken by the patient on his own responsibility.

Dr. A. R. Robinson presented a paper on "The Nerves of the Skin," illustrated by microscopic slides. Contrary to the usual belief, he showed that the nerves of the skin do not end in free ends, but form loops, and return into the superficial or deep plexus or into a neighboring papilla. The striated appearance of the tactile corpuscle he declared to be caused by a nervous plexus.

The question of the Contagion of Leprosy was reviewed by Dr. James C. White, who insisted that it was decidedly inoculable, and that sufficient danger of communication existed to warrant the attention of the National Board of Health to the possible dangers to the people of this country from this source.

Dr. I. E. Atkinson, of Baltimore, described a form of specific eruption which was called *syphiloderma papulosum circinatum*. This rare and peculiar cutaneous lesion, he said,

belongs to the early manifestations of syphilis. The spots affected are not formed by an aggregation of papules, as sometimes occurs in late syphilis, but are due to a single papular development which slowly enlarges at its border until it covers an area equal to a silver dollar, or larger, though rarely exceeding this size. The eruption may be sparse, and is then generally seen on the face and the neck, or it may be general, involving the entire body. Its course is slow. The lesions closely resemble ringworm, from which they are distinguished readily by their microscopic appearances; they have some features in common with erythema multiforme and with psoriasis, but attention to the history and the clinical characters will readily differentiate those distinct disorders.

A valuable tabulated report, based upon 58,617 cases of skin disease observed by members of the Association, was presented by Dr. White, Chairman of the Committee on Statistics.

A case of pellagra was reported by Dr. Sherwood, of the Long Island College Hospital.

The Association remained in session three days. Several new members were added at this meeting, and the following officers were elected: Dr. R. W. Taylor, of New York, President; Dr. I. E. Atkinson, of Baltimore, and A. R. Robinson, of New York, Vice-Presidents; Dr. A. Van Harlingen, of Philadelphia, Secretary; Dr. George H. Rohé, of Baltimore, Treasurer. The next place of meeting, Lake George; the time, the Wednesday nearest September 1, and the two following days.

REVIEWS AND BOOK NOTICES.

THE EXPERIMENTAL METHOD IN MEDICAL SCIENCE. By JOHN C. DALTON, M.D. Pp. 108. New York, G. P. Putnam's Sons, 1882.

This work comprises the second course of the Cartwright Lectures of the Alumni Association of the College of Physicians and Surgeons, New York, delivered during January and February of this year.

In these lectures the author has endeavored to furnish sketches which, while illustrating the manner in which some of our scientific knowledge in medicine has been obtained, will also serve to exhibit the close relationship between practical and scientific medicine, and the dependence of the permanent advancement of the one upon that of the other.

The first lecture is a sketch of "Galvani, and Galvanism in the Study of the Nervous System." The second is devoted to two quaint and obsolete doctrines which held a prominent place in physiology a century ago, and which were known as Buffon's "Theory of Organic Molecules," and Bonnet's "Theory of the Inclusion of Germs." The third, and

last, is on the "Nervous Degeneration Theory of Sir Charles Bell."

This little work is carefully and entertainingly written, exhibits results of an evidently careful study, and, as a whole, is a task so thoroughly performed as to reflect much credit on its distinguished author and to deserve the thanks of the medical profession. It is a fitting companion to the recent writings on scientific medicine by Fothergill, Lauder Brunton, Bartholow, and others, and will occupy a merited position among the histories of medical science.

E. T. R.

GLEANINGS FROM EXCHANGES.

TREATMENT OF PURULENT OTORRHOEA.—Dr. S. Pollak read a paper before the Medico-Chirurgical Society (*St. Louis Courier of Medicine* for May), in which he discusses the rational therapeutics in purulent otorrhœa, or perforating suppuration of the middle ear, which is timely and practical. We can give here only a few abstracts of this valuable communication. He says:

"From time immemorial *cleansing* of the ear with *water* was always considered the first step in the treatment of otorrhœa, and it is considered *absolutely indispensable* now. The auditory canal must be quite clean ere the first satisfactory examination can be made. The laws of general surgery obtain also in aural surgery.

"Foreign bodies, pus, fetid septic material, must be removed, whether from an open surface, from a cavity, or from a sinus. Wiping or swabbing with sponges, lint, oakum, or absorbent cotton will remove or absorb secretions, but *never cleanse*. . . .

"It is well known that death occurs, during many cases of otorrhœa, under pyæmic or septæmic symptoms, without *visible* caries of the petrous bone, or palpable alterations in the adjoining organs. It has been proved that schizophytes penetrate the walls of the lymphatics and of the blood-vessels in company with migratory cells, and cocci are swept into the circulation alone, or in company with thrombi, and thus cause metastasis in the lungs.

"With the abundant proof that schizomycetes colonize in the meatus in purulent perforative otorrhœa, the rational plan of treatment must necessarily be *antiseptic*, the aim of which is to destroy the putrefactive condition already present.

"Only in *acute* cases the *aseptic* treatment—*i.e.*, to *prevent* the immigration of the schizophytes, to stop the putrid decomposition of the secretion, as well as the suppuration—is indicated. Unfortunately, the opportunities are rare.

"In *acute disease of the middle ear*—*i.e.*, of the tympanal cavity, Eustachian tube, and

mastoid antrum and cells—we use the warm douche by siphon or fountain, or even the instilling of hot water with a spoon every few minutes; application of two or three leeches; inflation of the tube with either the Politzer air-bag or by the Valsalva method; paracentesis of the membrana tympani, not only to allay tension and pain and evacuate the accumulated fluids, but for the purpose of *disinfecting the tympanum*. Directly after the meatus is filled with finely-pulverized *boracic acid*, which is well borne, and fulfils the purpose of warding off the immigration of schizomycetes and causing rapid recovery, especially if confined to a warm room with perfect tranquillity of body. Opiates are not required, though a few drops of a solution of atropia (gr. $\frac{1}{100}$) instilled have often given prompt relief.

"In *chronic otorrhœa*, *antiseptics* are in order. The schizomycetes must be killed, or at least rendered innocuous, their immigration prevented, and the process of decomposition terminated. . . .

"But *antiseptic cleansing must be performed before any application can be made to the diseased surface*.

"The mere swabbing out of the meatus, the tympanum, and adjoining cavities with tampons of absorbent cotton *cannot and does not* cleanse. This can only be effected by *frequent syringing with a large amount of fluid and a forcible stream*, which will wash out the microbia and enfeeble the vitality of the micrococci which remain.

"*Superabundance* of moisture excites a noxious influence upon the growth of schizomycetes, but a *slight* amount increases their growth.

"It is averred that by a great amount of fluid we run the risk of making the tissues swell too much by *excessive osmotic saturation*, which is a very serious objection, but which may be obviated by using *antiosmotic fluids*, such as a concentrated solution of *chloride of sodium* in *boiled water*.

"Common water always contains numerous micro-organisms, but boiling for a certain length of time destroys the propagative capacity of these structures.

"In order to avoid all possible danger of leaving decomposing material in the cavity, it is best to syringe abundantly and repeatedly with water which has been rendered antiseptic by *boracic acid*, and *alcohol*, which increases the antiseptic effect of boracic acid and exerts a beneficial and astringent action upon the diseased surface. At the same time air should be freely forced through the Eustachian tube by the Politzer air-bag or the Valsalva method of inflation; for stagnant air, like stagnant water, leads to putrid decomposition. Chloroform vapors may also be insufflated with advantage.

"The excellent effect of alcohol in suppurative otitis media by desiccation and molec-

ular coagulation of albuminous fluids has long been known; its energetic action upon a diseased mucous membrane has always been recognized.

"We cannot lay too much stress upon the beneficial antiseptic action of alcohol. Its antiseptic effect is considerably increased by a combination with boracic acid. A liquid remedy can penetrate into all cavities and fissures, but it cannot *remain* in permanent contact with the diseased surface. This condition can be fulfilled by keeping a reserve of active material in the shape of a pulverized remedy, whose gradual solution produces a continued action.

"A supersaturated alcoholic solution of boracic acid, 10 to 20 per cent. more than the alcohol can dissolve, will meet this indication. This solution, slightly warmed and well agitated, is poured into the ear, and the boracic acid as carried along with the fluid reaches the entire surface. Let the solution remain in the ear as long as possible. Even granulations and polypi disappear under this treatment without direct operative interference.

"Insufflation of *dry boracic acid*, as advocated by Bezold, does not meet the requirement. It is, in the first place, coarsely triturated, and causes traumatic irritation; and, secondly, it is not easily soluble in water, and it is apt to concrete in the cavity and to occlude it entirely. I remember having had under treatment a lad aged eight years, a victim of perforating suppuration of the middle ear; the discharge was very abundant and fetid, so that he had to leave school. I determined to try the entire dry antiseptic treatment without *previous syringing*. I dipped the absorbent cotton probe in again and again without being able to remove the entire fluid contents of the cavity, and still less to correct the fetor. I had to resort to the syringe at last. The cavity was promptly cleansed, deodorized, and dried. I insufflated finely-pulverized boracic acid, so that the entire mucous surface of the cavity was covered with it, and I filled the whole meatus with it besides. In three days the boy returned, feeling very uncomfortable, complaining of pain and vertigo. The meatus was hermetically closed, as if filled with cement. The probe made no impression upon the concretion. Water would not soften it, but alcohol gradually did, so that I could drill and scoop it out and give exit to a large accumulation of fluid. The relief was instantaneous. I cleansed the ear again with the syringe, but substituted the borate of sodium for the boracic acid, filling the meatus with it to the brim. Next morning not a trace of it was left; it had entirely dissolved. I suggested to the parents to syringe the ear with boiled water and a little common salt, and fill the ear with borate of sodium, whenever a discharge was visible. The result was satisfactory; fetor disappeared entirely, the discharge lessened and gradually ceased; but

the perforation in the membrana tympani is as large as ever. H. D. 24 inches. Politzer uses sulph. of alum for insufflation, but parasites have been found (*aspergillus penicillium*) in a solution of alum; it is known they cause otomycosis. The burnt alum may do better.

"The absolutely dry method of treatment of otitis media purulenta has come in vogue only of late, and has found two able advocates in this city, whose opinions are entitled to the highest respect. I cannot learn that this plan has found favor elsewhere. With all due deference to our home aurists, I am constrained to dissent from their views. They cannot stand the light of investigation, are impractical in their application, and unsupported by authority and experience.

"Although insufflation of dry remedies is as often practised as instillation of lotions, it should only be done after cleansing the ear with water and syringe. My reasons for not favoring the exclusive dry treatment, for not preferring the cotton probe to the syringe, are:

"None but aurists are likely to be provided with the appliances of aural surgery. The use of the mirror, speculum, and probe requires good light, good sight, great manual dexterity, and docile, reasonable, and obedient patients. Children, nervous people, are timid, restive, and resisting. Of course all proceedings are then ended. But a mere tyro can use the syringe. Parents and nurses can be easily instructed how and when to use the syringe, or they can be limited to the mere pouring in of boiled water with salt and letting it run out again.

"They can be taught insufflation as easily as instillation, which cannot be done too often. For when there is fetor there is decomposition, there is sepsis, and there are micro-organisms, which must be at once and very energetically treated by cleansing and antiseptics, whether with dry borax by insufflation or a super-saturated alcoholic solution of boracic acid.

"It is not probable that patients will visit aurists whenever they perceive a little fetid discharge; and yet it must be promptly and vigorously met.

"We are bound to rely on nurses in most cases of sickness, but in none more so than in this. The aurist can hardly do much more or better, except when the absolute dry treatment, without previous proper cleansing, is determined upon. The probing can only be done by the well-trained aurist. But the most skilful manipulation of the cotton probe is more irritating than the syringing, and at no time as efficient. No amount of wiping, even to dryness, can remove fetor. By aspirating, Politzerizing, or Valsalving, ventilation of the drum cavity may be effected, stagnant air and excess of fluid may be expelled, but the surface remains moist and continues to be the breeding-place for parasites. But even ventilation may not always be feasible; the tube

may be impervious; and with children it is only accidentally effective.

"Iodoform has been much recommended in suppurative inflammation of the middle ear, but was abandoned after a fair trial. Its pungent odor was insufferable both to the patients and their surroundings, and could not be disguised. It was even tasted for hours after insufflation. The syringing and antiseptic treatment with either lotion or powders finds application in all cases. A judicious use of constitutional remedies should not be neglected in otological practice. Considering that purulent otorrhœa is occasionally a sequel of syphilis, of rheumatism, of struma, it is evident that a diathesis of these diseases must be met with a treatment indicated in these cases.

"As in ophthalmic practice, so in otological, internal treatment has proved of inestimable value.

"Mercury occupies the front rank. Sir William Wilde says, 'It is the remedy which of all others acts most beneficially and with specific efficacy in diseases of the ear.' This strong and unqualified praise, though not shared by most modern authorities, is yet endorsed by a good many. I have obtained most gratifying results from a persistent use of the bichloride and biniodide of mercury in doses of from $\frac{1}{8}$ to $\frac{1}{4}$ of a grain three times a day, and even then when there was not the least taint of syphilis discernible or suspected. In my hospital record a stereotype formula of the biniodide is very often found, both in eye and ear cases. Especially was it found of great advantage when the tympanal inflammation was threatened with or gave rise to intracranial complication. Periostitis of the tympanum will soon be followed by periostitis of the antrum and mastoid cells, and of the dura mater.

"Muriate of ammonia, pyrophosphate of soda, sulphide of calcium, pulsatilla, have been recently spoken of, but I have not tried them sufficiently to have an opinion about them.

"I am, however, convinced of the great value of tonics in chronic aural diseases with discharges, especially the quinine, iron, and strychnia.

"Most of the distressing symptoms in aural diseases are more or less amenable to local and constitutional treatment, with the exception, perhaps, of *tinnitus aurium*, as an objective symptom. I have yet to learn the remedy which in some cases has given the least relief, though I went through the whole list. I know of cases who went from aurist to aurist in this country and in Europe, and were brought to the verge of insanity, without obtaining the least relief.

"The allusion to constitutional treatment will get no response from specialists,—i.e., who are specialists *only*,—but will readily be accorded in by the profession at large. The

eminent ophthalmic and aural surgeon, Dr. Theobald, in one of his lectures on the use of constitutional remedies in the treatment of ear diseases, very aptly says, 'The mere specialist in otology *overestimates* the value of purely local measures, and *underestimates* the value of constitutional remedies.'

"Only by a judicious and intelligent combination of both may great results be achieved."

ESTIMATION OF QUINIA.—After a consideration of various methods of assaying cinchona bark (*Ephemeris*, vol. i. No. 4), Dr. E. R. Squibb makes the following remarks with regard to the mode of estimation of quinia:

"After much labor extended over many years, and the trial of all the principal processes which have been published, the writer is obliged to acknowledge that he has found no process for the accurate separation of the cinchona alkaloids which was within the scope of his ability to apply with success. The more complicated and delicate processes of the higher chemists seem only successful in their hands, or at least none of them have thus far come into any general use, and under these circumstances it seems only practicable, in a general way, to reach near approximations by some method which is simple and easy of application.

"This much only is claimed for the following process:

"It is common to have the cinchona alkaloids divided into ether-soluble alkaloids and those not soluble in ether. But this is a very inaccurate subdivision, for all are quite soluble in ether whether the ether be absolute or 94 per cent., and the application of ether to any mixture will easily dissolve the whole. Thus either the powdered bark itself, or after having been mixed with milk of lime and dried, can easily be exhausted of alkaloids by ether alone. All that can be said is that quinia, quinidia, and cinchonidia are more soluble in ether than the other alkaloids, and that quinia is most soluble of all, and is very soluble,—so soluble that it dissolves in large quantity in ether that has been already saturated with other less soluble alkaloids. And, further, that in the presence of any ordinary proportion of any or all the other cinchona alkaloids all the quinia of a mixture will be dissolved by ether if enough of this solvent be present to fully dissolve the quinia if that alkaloid was alone. It is, however, still useful to distinguish the more valuable cinchona alkaloids, namely, quinia, quinidia, and cinchonidia, as the ether-soluble alkaloids, because they can be roughly but still usefully separated by ether in such a way as to better define the values of various barks as they come into the markets for use, and the following process has been contrived to give a fairly good account of the so-called ether-soluble alkaloids as a group, if all are present, and a

somewhat less definite account of the quinia as well.

"Into the flask containing the total alkaloids, after these have been weighed, put first 5 grammes = 78 grains of glass which has been ground up in a mortar to a mixture of coarse and fine powder, and then 5 c.c. = 80 minims of stronger ether. Cork the flask and shake it vigorously until by means of the glass all the alkaloids have been detached from the flask and ground up in the presence of the ether into fine particles. In this way the definite quantity of ether, which is large enough to dissolve all the quinia that could possibly be present, becomes entirely saturated with alkaloids in the proportion of their solubility, and the solution will necessarily embrace all the very soluble ones as the quinia.

"Next, mark two test-tubes at the capacity of 10 c.c. = 160 minims each, and place a funnel and filter of 7 c.m. = 2.8 inches diameter over one of them. Wet the filter well with ether, and then pour on to it the mixture of alkaloids, ether, and glass, from the flask. Rinse the flask out two or three times into the filter with fresh ether, and then wash the filter, and percolate the glass with fresh ether, applied drop by drop from a pipette, until the liquid in the test-tube reaches the 10 c.c. = 160 minim mark. Then change the funnel to the other test-tube, and continue the washing and percolation with ether until the mark on the second test-tube is reached by the filtrate. Pour the contents of the two test-tubes into two small tarred capsules, evaporate to a constant weight, and weigh them. The first capsule will contain what may be called the ether-soluble alkaloids. Subtract from the weight of these the weight of the residue in the second capsule, and the remainder will be the approximate weight of the quinia extracted from the 5 grammes of bark. These weights multiplied by 20 will give the percentage of ether-soluble alkaloids and of quinia.

"The explanation upon which these conclusions are based is as follows:

"The quantity of ether used is abundant to dissolve all the quinia and most of the quinidia and cinchonidia, and presumably does so, and dissolves, besides, all that it is capable of holding of the less soluble alkaloids. This saturated solution is filtered off, displaced, and washed out. Then an equal volume of the solvent ether is applied to the residue containing the less soluble alkaloids, and is presumably nearly saturated by these, but contains no quinia, and but little quinidia perhaps, though it contains as much of all the other alkaloids as did the first portion. If the two equal volumes of solvent, then, contain nearly equal quantities of the less soluble alkaloids, while the first contains nearly all of the more soluble ones, then it only needs that the weight of the second residue be subtracted from the weight of the first

to leave only the weight of the more soluble alkaloids, such as quinia and quinidia if the latter should be present.

"In two good critical assays, one of red and the other of yellow cinchona, made for the purposes of this paper at this time, the red cinchona (*succirubra* of Ceylon) gave .335 grammes of total alkaloids, which is $(.335 \times 20) = 6.7$ per cent. These total alkaloids then gave .210 grammes of ether-soluble alkaloids, which is equal to $(.210 \times 20) = 4.2$ per cent., and this corrected by subtracting .015 grammes of less soluble alkaloids, or $(.015 \times 20) = .3$ per cent., gives $(4.2 - .3) = 3.9$ per cent. of quinia. Then, as the ordinary sulphate of quinia contains about 73.5 per cent. of quinia, this 3.9 per cent. of quinia would be equal to (as $73.5 : 100 :: 3.9 :$) 5.3 per cent. of sulphate.

"The yellow bark assayed at the same time (*Cinchona officinalis* from the *Ootacamund*) gave of total alkaloids 7.3 per cent. Ether-soluble alkaloids 3.48 per cent. Quinia 2.76 per cent. Equal to sulphate of quinia 3.75 per cent.

"In connection with these two assays it is worthy of remark that here, as is very rarely the case in the experience of this writer, the red cinchona yields the smaller percentage of total alkaloids with the larger percentage of quinia. Usually the proportions are just the reverse of this between the red and yellow barks."

REMOVAL OF THE UTERINE APPENDAGES.

—At the July meeting of the Obstetrical Society of London, Mr. Lawson Tait showed fifteen specimens of uterine appendages removed by him since December, 1881, for hydro- or pyo-salpinx. The symptoms were pain aggravated by walking, by marital intercourse, and at the menstrual period. Five cases were due to gonorrhœa, and four either due to or aggravated by pessaries. In most, the operation gave immediate and complete relief. In all there was improvement: none had died. He objected to the terms "spaying," "castration of women," "normal ovariectomy," because they implied that healthy ovaries were removed, an operation which he had never done. He thought the operation of doubtful value in neurasthenic cases. Of these he had only done four, and at present was not disposed to go further. For myoma, its mortality was less than that of lithotripsy in the male, and its results were more certain. For the class of cases from which the specimens exhibited were taken, it was the only means which offered a hope of relief.—*British Medical Journal*.

LEPROSY TREATED WITH CHAULMOOGRA OIL.—A case of incipient true Eastern leprosy was treated by Dr. Startin, of London, with three capsules of Chaulmoogra oil daily, with inunctions of the crude oil, with decided amelioration of the symptoms.—*Lancet*, July 29.

NOTES AND QUERIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY LECTURES.

PROF. AUSTIN FLINT, Senior, of New York, has accepted the invitation to deliver the series of 1882-83. His course will consider practical points in the physical diagnosis of visceral lesions.

At a recent meeting of the Council, the annual meeting of the American Academy of Medicine was postponed until Thursday, October 26, when it will take place at Philadelphia at the time of the Bi-centennial Celebration.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM AUGUST 18 TO SEPTEMBER 1, 1882.

MURRAY, ROBERT, COLONEL AND SURGEON.—Relieved from duty as Medical Director, Military Division of the Missouri, and to report in person to the Commanding General, Military Division of the Atlantic and Department of the East, for duty as Medical Director of that division and department. S. O. 191, A. G. O., August 18, 1882.

BROWN, J. B., LIEUTENANT-COLONEL AND SURGEON.—Granted leave of absence for six months on surgeon's certificate of disability. S. O. 200, A. G. O., August 29, 1882.

BILL, J. H., MAJOR AND SURGEON.—Granted leave of absence to December 1, 1882. S. O. 196, A. G. O., August 24, 1882.

ALDEN, CHARLES H., MAJOR AND SURGEON.—Granted leave of absence for three months. S. O. 196, c. s., A. G. O.

SMITH, A. K., MAJOR AND SURGEON.—Granted leave of absence for one month on surgeon's certificate of disability. S. O. 131, Department of Arizona, August 22, 1882.

HUBBARD, V. B., MAJOR AND SURGEON.—Assigned to duty at Fort Wingate, N.M. S. O. 172, Department of the Missouri, August 28, 1882.

MUNN, C. E., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 147, July 28, 1882, Department of the Missouri, is extended two months. S. O. 196, c. s., A. G. O.

SKINNER, J. O., CAPTAIN AND ASSISTANT-SURGEON.—To take charge of Medical Director's office, Department of Arizona. S. O. 131, Department of Arizona, August 22, 1882.

SPENCER, WM. G., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 80, April 7, 1882, from A. G. O., is extended two months. S. O. 191, c. s., A. G. O.

BARROWS, CHARLES C., ASSISTANT-SURGEON.—Assigned to duty at Fort Grant, A.T. S. O. 130, Department of Arizona, August 21, 1882.

OWEN, JR., WM. O., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty at Vancouver Barracks, W.T. S. O. 114, Department of the Columbia, August 11, 1882.

EGAN, P. R., ASSISTANT-SURGEON.—Assigned to duty at Fort Bowie, A.T. S. O. 134, Department of Arizona, August 25, 1882.

WAKEMAN, W. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Now at Omaha, Nebraska; to report to the Commanding Officer, Fort D. A. Russell, Wyoming, for duty. S. O. 88, Department of the Platte, August 25, 1882.

MACAULEY, C. N. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty at Fort Columbus, N.Y. S. O. 147, Department of the East, August 25, 1882.

MACAULEY, C. N. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report in person to the Commanding General, Department of the East, for assignment to temporary duty. S. O. 192, A. G. O., August 19, 1882.

PHILADELPHIA, SEPTEMBER 23, 1882.

ORIGINAL COMMUNICATIONS.

OBSERVATIONS ON THE NATURE AND TREATMENT OF ACUTE INTESTINAL CATARRH, ESPECIALLY IN CHILDREN.

BY THEODORE DEECKE, M.D.,

Special Pathologist to the New York State Lunatic Asylum, Utica, N.Y.

IN this article I propose to discuss the affections known under the terms *catarrhal diarrhoea*, *infantile diarrhoea*, and *cholera infantum*,—the *acute gastro-enteritis* of children,—but exclude from consideration the phlegmonous and diphtheritic enteritis, as well as the traumatic variety, induced by external injuries or the introduction of foreign bodies into the intestinal canal.

When we examine the literature of the subject for the last twenty-five years, it becomes evident that, despite its copiousness, comparatively little has been added to our real knowledge of the nature of the affection. One part of its literature abounds in theories concerning the etiology of the disease, another treats of its localization and anatomical appearances, while a third discusses its management and treatment; but scarcely anywhere do we meet with attempts and researches to promote a deeper insight into the true nature of the disease.

As regards the anatomical appearances and seat of the morbid process, it has been shown, in the dissecting-room, that various conditions, from a state of the most severe congestion and inflammation of the inner coats of the digestive tract to a complete anæmia, may be observed; and that no part of the tract can be considered exempt, although the favorite seat of the affection is either the lower portion of the small intestines, more rarely the descending colon and the rectum, or the duodenum. In the latter case, nausea and vomiting, which set in from the beginning, are frequently associated with constipation, preceding the diarrhoea, and are recognized as valuable symptoms of topical diagnosis. In the former, the pulpy, greenish, yellowish, and grayish brown, or the so-called rice-water stools are the prevailing phenomena.

VOL. XII.—26

Notwithstanding the variability of the morbid anatomical appearances, it has not been deemed a matter of sufficient importance to raise the question whether or not they should be considered as evidences of different affections, or simply different phases of one morbid process, occurring in the course of its evolution. The reason is that the symptomatology did not present sufficiently distinct features to justify its division into groups of different character. The treatment, also, down to the present time has continued to be purely symptomatic and empirical, with the exception of the introduction and addition of the so-called antiseptic remedies, which recommended themselves from a certain etiological point of view, of which we will speak farther on. The usual mode of treatment, in conformity with the symptoms and their supposed cause, is the following. In cases of constipation, or where this condition precedes the diarrhoea, with or without vomiting, or where articles of food are passed undigested, the rule is to resort to mild purgatives, such as castor oil or calomel, which are not liable to produce an increase either of peristaltic or of the endosmotic action. Where there are indications of an abnormally excited peristalsis, recourse is had to opiates, of which the morphine acts, as experiments have shown, upon the splanchnic nerve with the same inhibitory effect as digitalis upon the vagus. To these, lately, yet with little success, hydrate of chloral has been added, like the former, combined with carminatives and mucilaginous vehicles. In order to overcome the supposed congestive condition of the mucous membrane, antiphlogistics and vegetable as well as mineral astringents—as alum, subnitrate of bismuth, acetate of lead, nitrate of silver—are given, and, in order to excite the digestive power, pepsin preparations, bitter tonics, and stimulants. From time immemorial, however, the most extensive use has been made of antacid remedies, such as carbonate of lime, soda, magnesia, bismuth, zinc, etc. This treatment has for its basis the commonly entertained view that the *fons et origo mali* is the rapid acid fermentation of material accumulated in the alimentary canal. This view found ready support in the so-called germ-theory of disease, or the discovery of the infective or bacteric nature of a great

number of diseases to which more especially those parts of the system are shown to be subject, which are directly and continuously exposed to the action of external influences. It ascribes the phenomena of fermentation and putrefaction, and the normal and abnormal interchange of matter accompanying the same, to chemical processes connected with the life of micro-organisms of various orders belonging to the vegetable kingdom. These, like all plants, are supposed to have their preference as regards the soil upon which they grow and thrive, and to demand a certain temperature for their development and multiplication.

With the adoption of this theory the so-called antiseptic remedies, as corrosive sublimate, creasote, carbolic acid, salicylic acid, benzoic acid, resorcin, etc., were added to the list of remedies with the view of combating the cause of the disease by the destruction of those parasitic forms of life which were found to be the constant accompaniments of the morbid process. While I leave it undecided whether this theory is correct, I am willing to admit that the co-operation of such influences is more than probable.

Anatomically, the morbid changes consist most frequently of streaked or punctiform injections of the swollen and relaxed mucous membrane. The epithelial cells are increased in size and number, and undergo a process of softening and partial denudation. Peyer's patches and the solitary glands are swollen, and, in the earlier stages, injected and of a more or less dark red color; subsequently they become dark gray or light-colored. The submucous areolar tissue in the descending colon and rectum is often infiltrated by a serous exudation. In the advanced stages a purulent infiltration of the tissues, frequently associated with hemorrhagic foci, may be observed.

The characteristic physiological phenomenon will be found in the altered condition of the contents of the intestines. These are sometimes thin and watery, turbid from flocculi of fibrin, and undigested articles of food; in other cases they are of a greenish-yellow or yellowish-brown color, or loamy, resembling moist clay. The amount of undigested or half-digested material may be considerable; and, in connection with their decomposition, gaseous substances—as hydrogen, carburetted and

sulphuretted hydrogen, etc.—accumulate, and may distend the intestinal tube enormously, and thereby gravely interfere with its circulation. If this condition continues, the distended portions may become completely anæmic. Invariably, however, there is an admixture of abnormally large quantities of mucus, which, in the incipient stages, forms tough, glairy shreds and balls sometimes of considerable size. In the later stages the mucus is of a thinner consistence, turbid, and more uniformly mixed with the other contents.

The main phenomena connected with the morbid process, aside from the symptoms of the general disturbance of health, which will not be discussed here, are the frequency of the evacuations and their composition, and the more or less marked or even complete indigestion. The stools, of course, are precisely of the same character as the contents of the intestinal canal heretofore described.

That these phenomena indicate the existence of an abnormal irritation of the digestive apparatus is not disputed; yet the question is, What is the irritating agent? In order to answer this question, I have for a number of years examined chemically evacuations in all stages of the disease, and have especially directed my attention to the composition of the mucus which presents itself as an—in some respects—abnormal admixture.

Mucus is a normal product of secretion of the mucous membranes, but as regards its amount it may become of pathological importance, and suspicion is justified that in such cases its composition, chemically as well as microscopically, differs from that of the normal product. Fortunately, it is not difficult, if there is material enough, to separate the mucous discharge from the other substances present, in sufficient purity for analysis. It would seem proper, however, to state here that such cases only were considered as affording an opportunity to work up the material immediately after the discharge.

The pathological mucous discharge is microscopically recognized by its great increase of corpuscular elements, both in size and number. These cell-formations must be considered as the product of a morbid, hyperplastic process, by which large quantities of nutrient material are consumed at the expense of the normal

interchange of matter and nutrition of the tissues involved. The process is therefore entirely of an inflammatory nature, although the over-production of corpuscular elements, at least in the earlier stages, seems to belong exclusively to the order of epithelial formations. This is the true epithelial catarrh, which is essentially of the same character in whatever region of the mucous tracts it may occur. It is conceded that this process is, in all cases, preceded by capillary hyperæmia, which may be either active or passive, and is liable at any time to change from the epithelial form into true purulent catarrh, or into intermediate forms, in which either the one or the other of the corpuscular elements predominates in the discharge. In the epithelial form, however, I am inclined, from my own observations, to ascribe significance to a condition which should be called hyperlymphosis rather than to the hyperæmia. In cases of intestinal catarrh the hyperlymphosis is a phenomenon of constant occurrence, and is a predominant condition in the course of the disease, especially in infants, where the intestinal lymphatic system is developed in inverse proportion to the youthfulness of the individual.

It is obvious, since the whole process is of an inflammatory nature, that the conditions described may be brought about by all such causes as are liable to produce inflammations, the characteristic feature being the result of the peculiar anatomical and physiological relations of the tissues involved. The process in its earliest stage is evidently but a physiological reaction, tending to restore a locally disturbed equilibrium, and probably occurs in innumerable instances without giving rise to any symptoms of disturbance of the general state of health.

Nevertheless, it should be remembered that the majority by far of all physical disorders consists in affections of the mucous integuments, and prominently of those which form the lining of the digestive tract. No other organ of the human body, the skin not excepted, is more injudiciously treated by man himself, and here incalculable influences commence to operate, which are induced by the presence of foreign substances in contact with the same.

It will be readily perceived that an increase in the production of mucus, and the

copious discharge and new formation of epithelial elements, on the surface of the mucous membrane of the alimentary canal, must either diminish the secretion of gastric juice or reduce its quality. In both cases, on account of the deficiency of digestive energy and the retention of dead and easily decomposable material, this, if not quickly removed, will, at the high temperature of the body, rapidly undergo fermentation and putrefaction. The liability to this will be increased, since, in consequence of the indigestion, the bile is not poured forth in the usual and normal amount. For the secretion of bile, which is altogether dependent upon excitations from the digestive tract, becomes, as physiological experiments have shown, at once deficient or ceases entirely, in proportion to the degree of the digestive disorder. The weight of this will be understood from the fact that the bile possesses a highly antiseptic property, and that its main office, aside from assisting in the assimilation of fat and peptones, is to stimulate peristalsis, and to arrest the decomposition, or prevent the putrefaction, of the intestinal contents.* The deficiency of bile will be readily recognized by the color of the evacuations,† and by their offensive and putrid odor. In duodenal catarrh, from the closure of the common bile-duct by the swollen membrane, jaundice is not unfrequently observed.

Now, all the conditions heretofore mentioned, with the exception of the putrid processes, which, however, come into action only in the advanced stages of the morbid process, scarcely suffice to account for the most prominent symptom connected with the disease, the diarrhoea,—viz., the frequency and the fluidity of the motions. That the latter in part is due to a serous exudation from the submucous cellular tissue is more than probable. In infants, during dentition and at the time of weaning, the swallowing of large quantities of saliva and mucus may have the same effect. But the high degree of irritability of the digestive tract and the increased peristalsis, which interferes with the proper diges-

* Animals with an artificial fistula of the gall-bladder always suffer from the effects of putrid processes in the alimentary canal, and die with symptoms of septic poisoning, while lesions in no other organs of the body are observable.

† It is an error to suppose that greenish, so-called bilious stools of children contain an excess of bile. The natural color of bile is brown (biliphæin), which is transformed into biliverdin in the cases referred to by the morbid mucus acting upon it.

tion of the intestinal contents, seem to point to the direct action of another factor.

The normal physiological mucus constitutes a very weak saline solution of sodium and potassium chloride, sodic phosphate, etc., containing, as a characteristic organic principle, mucine, a substance belonging to the albuminoid compounds. It differs from albumen, however, by its smaller amount of carbon and nitrogen, and by the absence of sulphur. It is not coagulable by boiling, and possesses in a high degree the power of absorbing water, and swelling up to a gelatinous and sticky mass of semi-fluid consistence. The reaction of mucus is probably neutral, or it vacillates between a slightly alkaline, and, from the admixture of saliva or other secretions, slightly acid reaction, and occasionally, like other organic fluids, may react both ways. As regards its functions, it is more than probable that it is purely excrementitious, and serves only as a coating which protects the surface of the mucous membranes, and relieves them from contact with the excreted materials and foreign substances. It is to some extent the analogue of sweat, and may, like this product, be at times of very variable quantitative composition. The different kinds of mucus as secretions from different membranes also vary considerably in their chemical constitution and general appearance. It may be proper, therefore, to remark that we here take into consideration only the mucous discharge from the digestive tract. The leucocytes, white cells or ordinary mucus-corpuscles, are not constant constituents of normal mucus, although they may be found occasionally in limited number without indicating a morbid condition.

The normal mucus does not belong to the class of organic products, which are easily subject to dissociation, or which form a favorite nidus for the development and preservation of micro-organic life. Yet the contrary must be said of the pathological product. This product, which is microscopically characterized, as we have seen above, by the extensive growth in it of corpuscular elements, differs materially in its composition from the normal. As might be expected, it first contains albumen, at times in comparatively considerable quantity. Aside from this, there is a remarkable increase of earthy and al-

kaline phosphates, which, in the form of the triple phosphates, are frequently found precipitated in their characteristic crystals. On account of the presence of both constituents, it affords an excellent soil for the production of microscopic forms of life. It is at all times disposed to decomposition, among the products of which, from the dissociation of albuminous substances, ammonia is the most noteworthy. Its reaction is accordingly decidedly alkaline.

It is evident that an organo-plastic fluid, of the kind here described, in a state of decomposition, brought into contact with tissues which prepare and absorb the nutrient material for the whole body, cannot fail to have a decided influence upon these processes. I have mentioned above that the large consumption of alimentary material in the excessive production of morbid new formations, forms one element of pathogenic importance. The fermentation and putrid decomposition of organic substances in direct contact with living tissues, a process by which large quantities of oxygen, destined for the life and the preservation of the tissues, are withdrawn from them, while poisonous gases are developed, which act chemically and mechanically upon the parts involved, furnishes a second deleterious factor. A third will be found in the vast production of micro-parasitic life, which thrives at the expense of the life of the tissues invaded by them. And a fourth, in the poisonous and irritating action of the products of decomposition of dead organic matter, among which, aside from organic alkaloids, the nature and property of which have not yet been sufficiently studied, the radical of all, *ammonium, in statu nascendi*, plays the most important rôle.

It has long been known that ammonia acts violently upon the peripheral nerve-expansions. In the intestinal tract in connection with the conditions here discussed, aside from neutralizing the normal acidity of the gastric juice, it must be considered the prime factor in the production of the increased peristalsis. The same substance, with precisely the same action, is the cause of the profuse peristaltic diarrhoeas in certain stages of Bright's disease (the interstitial form). In this case, the ammonium, in the form of ammonium carbonate, is the product of the decomposition of urea, a part of which, in

consequence of the deficient function of the kidneys, is excreted with the intestinal secretions.

A similar irritant condition is produced and kept up by this agent in the catarrhal affections of the pelvis of the kidneys and of the bladder. The morbid process, especially in the latter, can be considered as in many respects closely analogous to intestinal catarrh, as the incipient stage of this disease is likewise characterized by a hyperproduction of mucus, and by its pathological and pathogenic constitution. In the urine it sets up at once an alkaline fermentation, and induces the decomposition of urea into ammonia. Thus, there are in the contents of the bladder all the conditions present, by which its mucous membrane must become violently irritated, and those which develop another evil by the growth and preservation of micro-organic life.

It will be seen from the foregoing that the result of the chemical study of intestinal catarrh, presented here, would seem rather to favor the theory of an alkaline diathesis as the true condition and nature of the disease. This is correct as far as the incipient stages and the majority of the cases are concerned. But I am far from disavowing its septic or bacteric character. Nor is it intended here to dispute the occurrence of acid fermentations in the digestive tract in connection with intestinal catarrh. These are not unfrequently observed in the advanced stages of the disease, especially when fatty substances accumulate in the intestinal canal. Very probably in these cases the life-process of micro-organisms facilitates the liberation of the fatty acids or the formation of derivatives of these, some of which undoubtedly belong to the class of irritant poisons. Acid fermentation as an incipient state is not, however, of frequent occurrence, but may be observed in any case where fatty substances, which have already undergone a partial decomposition, have been introduced into the digestive tract.

Concerning the treatment of intestinal catarrh and kindred conditions, it should be the rule that early (even in the mildest affections) medical aid should be resorted to. Against the use of the favorite remedies, enumerated in the foregoing, no objections shall be raised here, but it is obvious that their administration should

be in conformity with the result of physical diagnosis. Here I would suggest, as an additional aid, a more thorough examination of the evacuations of the vomited matter, the discharges from the cavity of the mouth, the coating of the tongue, and, eventually, the urine, since the uropoietic system in the alkaline diathesis is frequently drawn into sympathy from the beginning. The examination is simply made as regards the reaction of the discharges, and whether there is a difference between the different discharges in this respect or not, and as regards the presence and the amount of ammonia. For the latter Nessler's solution can be used; for ordinary practice, probably the former, which can be applied everywhere, will fully suffice.

The selection of the proper medicines follows from the examination. In cases of alkaline diathesis the use of acids is indicated. In the early stages, and as long as large quantities of glairy mucus are discharged, this will almost always be the condition. Of the mineral acids, sulphuric acid, in the form of Haller's elixir, had for years a good reputation without any assigned reason. A greater favorite, however, is hydrochloric acid, as a restorer of indigestion: to its presence in some acid pepsin preparations a great part of the favorable action of these is probably to be ascribed. I confidently recommend the use of lactic acid, especially on account of its associated antiseptic properties. It is conveniently administered in combination with a bitter tonic, as follows:

R Lactic acid, 20;
Glycerin, 20;
Elixir of calisaya bark, 500,

to which from 15 to 40 minims of tinctura nucis vomicæ may be added, according to the age of the patient; to be given in $\frac{1}{2}$ to 1 teaspoonful, dessert- or tablespoonful doses according to age. Another valuable remedy will be found in tannin, which acts as an acid, an astringent, and an antiseptic,—as the latter by its affinity to organic alkaloids, which are always liable to be the products of putrid processes. It is of especial service in the diarrhoea and vomiting of nurslings, in doses of from 0.06 to 0.12 gram per diem.

In cases of acid fermentation, in the incipient stage, the immediate removal of the contents of the digestive tract by a mild purgative recommends itself, and

can also be safely resorted to, followed by antacids and opiates, in the advanced stages of the disease.

The medical treatment, of course, as usual, is at all times assisted by appropriate dietetic measures, and, if necessary, by repeated warm, tepid, or even cold baths of short duration, by cold spongings and rubbing, or by warm compresses of either spiced or pure alcohol and water.

A CASE OF PHOSPHORUS-POISONING WHICH COULD NOT BE DIAGNOSED EITHER IN THE LIVING BODY OR FROM THE MACROSCOPIC AUTOPSY.

BY HANS HEBRA, M.D.,

Universitäts Docent, K. K. Universität, Wien.

IN the session of the Society of Physicians, Vienna, March 31, 1876, I had the honor to present the history of a case which, not only from intrinsic value but also from collateral issues, excited the interest of the assembly. For this reason it has seemed to me worthy of publication. Other physicians, possibly, may have had such cases, or will in the future have them, and to this latter class this report may be of some service.

Upon the evening of the 21st of March, 1876, a shoemaker's apprentice, Anton Jinesek, nineteen years of age, came to my wards for admission. He was a well-nourished, powerfully-built individual, with good muscles, and of a somewhat pale exterior. According to his story, he lived in very favorable circumstances, in a healthy, dry dwelling, in the Ottakring, an elevated suburb. He worked in a large room, with only one comrade. His food, consisting chiefly of beer and meat, was amply sufficient. He expressed himself as perfectly contented with his lot in life. The disease on account of which he presented himself to the hospital began six days before. On his cheeks and thorax red spots, completely isolated, were noted. These became bluish red next day, and their number increased daily.

On 25th March, these spots were noted not only upon the face and thorax, but also upon the extremities, and in much greater numbers. They did not lose their color upon pressure, and were easily recognized as hemorrhages. These hemorrhages were evidently of different ages. While some

of the youngest were possessed of a very lively red color, the oldest ones were dyed bluish red, or were of a brown tint. Also, the forms of the isolated hemorrhages were not always the same in different portions of the skin. Upon the face and trunk they consisted chiefly of small, round petechiæ, of the size of a millet-seed, while upon the extremities they appeared radiating, as if the individual had scratched himself very hard. Upon the legs and feet, especially, they were in such large numbers that the entire surface was of a uniform, diffused redness. The gums were slightly swollen. The entire buccal mucous membrane was pale, and upon the tongue and lips were situated small ecchymoses. The conjunctiva of both eyes, especially of the left, were covered with hemorrhages.

The intellectual faculties, according to the cultivation of the individual, appeared perfectly normal. To a question addressed to him, he gave a brief answer. He complained of no pain, only of weariness, and of increasing inability to work.

The urine, voided in normal quantity, was of a dark-red color, and deposited, upon standing, a large sediment. This sediment proved to be chiefly red blood-corpuscles. The chemical examination, by Prof. Ludwig, demonstrated the presence of much albumen.

It will be borne in mind that in a disease, much resembling the present one, termed "*morbus maculosus hæmorrhagicus Werlhoffii*," or "*land scurvy*," the patients are generally emaciated, cachectic individuals, but that sometimes well-nourished, powerfully-built individuals may be attacked. This disease is rare; and, up to the present time, no satisfactory explanation of the fragility of the vessels, and of the cutaneous hemorrhages, has been given. The present case resembled very much this disease, although no hypothesis as to the origin of the disease could be formed.

To fulfil indications, dilute sulphuric acid was given internally, and the patient's body was washed with vinegar.

The 26th March passed without change in the condition of the patient. Upon the morning of the 27th March, while the cutaneous appearances remained, the same signs of deranged action of the central nervous system appeared. By close observation, it was possible to

see that both sides of the face were not perfectly symmetrical. Upon the right side, the naso-labial fold was straightened out. The right nostril was smaller than the left. The corner of the mouth was drawn downwards, and in whistling or blowing the lips were not properly approximated. The tongue deviated to the right,—in a word, a right-sided paralysis. The patient was unable to speak perfectly distinctly: when attempting to utter a sentence, it required great time and trouble to begin. It was only by the strictest attention that it was possible to make out the words uttered. The letters *l* and *r* were especially hard to sound. The answers to questions put to him were perfectly rational.

Motion in the extremities was preserved, although there was less power in the right hand than in the left. The patient walked to any given point as well with shut as open eyes. No abnormality was detected in either sight or hearing. It was supposed, therefore, that a hemorrhage into the left cerebral hemisphere had occurred.

In the afternoon, the condition in general remained the same. The patient ate with as much appetite as upon previous days, and complained of no pain. His difficulty in speaking augmented until it was impossible to understand one word. In vain he moved his lips; he could not utter a syllable. About midnight violent vomiting occurred. At first came undigested food, afterwards followed bile-colored mucus. The odor of the matter vomited was sour, which gave occasion to further inquiry. After administering soda-water, the vomiting ceased. Shortly after this the patient fell asleep, and awoke at 5.30 o'clock A.M. At this hour he exhibited great uneasiness, tried to speak, but failed. He touched his head significantly, as if he felt pain. Shortly after this he fell into a state of collapse, and died within half an hour, 28th March, at 6 o'clock A.M. The cadaver appeared very pale, white, like wax, showing a trace of a yellow tint. The cutaneous hemorrhages, therefore, were more visible than in life, as they contrasted strongly with the wax-like cadaver. The autopsy, awaited with great expectation, resulted as follows. The body was of middle size, well proportioned, and pretty well nourished, pale, with spots of post-mortem ecchymosis upon the back. Upon the integument, everywhere, little spots or dashes of blood,

of the size of a millet-seed, were perfectly visible. These existed in greater quantities upon the left thigh: upon single places—namely, the skin over the epigastrium, over the symphysis, over the exterior surface of the thighs—spots of hemorrhage of a radiating character were seen. His hair was light, and the pupils of both eyes equally dilated. His neck was short, while the thorax was long, narrow, but vaulted; the abdomen was contracted; all the muscles were stiff, rigid in rigor mortis. The meninges of the brain were well filled with blood. The top of the skull was spacious, with thin walls, and was intimately attached to the dura mater, particularly along the lines of the sutures. The pia mater was very fragile, and its vessels were filled with blood. The convolutions of the brain were flattened out, so as to be quite smooth in many places. The brain was congested, moist, and tenacious. The ventricles of the brain were somewhat dilated, and filled with almost perfectly transparent serum. In the left cerebral hemisphere, in the middle of the thalamus opticus, and towards the surface of the lower half of the left lobus parietalis, was a cleft the size of a walnut, filled with coagulated blood. Numerous capillary hemorrhages in the adjoining brain-substance, sometimes conglomerated, were found. The spinal marrow was, for the most part, apparently perfectly normal. The arteries at the base of the brain contained fluid blood, and were very fragile. The bronchial tubes were found filled with blood-tinged mucus. Ecchymoses upon the mucous membrane of the pharynx and larynx were noted. The lungs were adherent to the pleuræ, were filled with blood, and oedematous. Sub-pleural ecchymoses were observed.

The pericardium contained a few grammes of clear serum. The heart, of normal size, was flaccid, especially the right side. Ecchymotic patches, more or less confluent, were noted upon the visceral, more than upon the parietal, layer of the pericardium. In the cardiac cavities only fluid blood was found. In the substance of the left ventricle, particularly in the septum, but also in the right ventricle, numerous capillary hemorrhages were observed. The cardiac substance was of considerable consistence. The aorta and isthmus could be entered by the middle finger.

In the cavity of the abdomen several

grammes of serum, of reddish tint from blood, were found. Numerous capillary hemorrhages were observed under the serosa, covering the stomach, small and large intestines. The liver was of a pale brown color. In the gall-bladder a little light-brown bile was visible. The spleen was somewhat enlarged, with hypertrophied Malpighian capsules. In the stomach was found yellow mucus. The gastric mucous membrane was swollen, and many ecchymoses were seen. The intestinal mucous membrane was altered, and the tract contained chyme and fecal matter. The connective tissue around the right kidney was found suffused with blood. The mucous membrane of the calyces, infundibula, and pelvis were also congested. The cavity of the renal pelvis was filled with blood. The mucous membrane of the ureters was pale. The urinary bladder contained a small amount of bloody, turbid urine. The mucous membrane of the bladder was spotted with ecchymoses.

Incisions into the muscles of the arm, thigh, calf of the leg, made visible small capillary hemorrhages.

The result of the autopsy made no clearer the cause of the hemorrhages than the observation of the living body. It only proved the supposition, made *in vivo*, that the man had died from a serious central hemorrhage. As these cerebral hemorrhages are rare in young people, and as the arteries, generally, were not diseased or fragile, the enigma became still greater.

Prof. Heschl was, equally with myself, dissatisfied with the results of the post-mortem examination, and undertook himself the microscopic examination of the tissues. During the examination he found the pathological changes characteristic of phosphorus-poisoning. In the apoplectic region of the brain, granules of fat, and other evidences of extensive fatty metamorphoses and infiltration, were found. The same condition obtained in other parts of the brain in different degrees. The adventitia of the small arteries of the brain and the capillaries exhibited the same change. Fatty degeneration was found to obtain in the most distant portions of the body. Deposits of fat-granules were found in the cells of the liver as well as in the epithelium of the urethra. In all the muscles, cut obliquely, as well in voluntary as in involuntary muscular fibre, deposits of fat-granules were found.

One symptom only was lacking to establish a diagnosis,—namely, icterus. It has been mentioned that the skin, after death, had a slight yellowish tint; but this was very slight, and was not noticeable during life. How is it possible that icterus should be absent in phosphorus-poisoning? If one looks over the literature of the subject, and notes the recorded cases of phosphorus-poisoning, he will see that they may be all included under two categories—(1) those in which icterus appeared, and (2) those in which it was absent. When icterus did not appear, a large amount of the poison was taken, and the individual died before it could be developed. Also, when a small quantity is taken, and recovery follows rapidly, no icterus is developed. If, however, the sickness last one week or more, icterus invariably results. Hänel, in his dissertation, published in Leipsic, 1858, "*De Intoxicatione per Phosphorum aucta*," mentions three cases, of which two recovered, but the third had a fatal issue. In the first and third cases, icterus was present. In the second case, no icterus appeared, although in this and the other two, phosphorus was incontestably demonstrated in the matters vomited.

Simon, in Casper's "*Manual of Medical Jurisprudence*," 1871, cites seven cases of death from phosphorus-poisoning. In the first, second, third, fourth, fifth, and seventh cases, no mention of icterus is made. In the sixth case only a slight icterus occurred, though the duration of life after the poisoning was very different in the different cases. In the series of cases, death appeared after a few hours in the first case; in the second case, after twelve hours, thirteen grammes of phosphorus having been ingested; after eight hours in the third case; after twenty-six hours in the fourth case; after eight days in the fifth case; after six days in the sixth case. The seventh case presented much the same symptoms as the case we are now discussing, so that there was probably no presentiment of the cause of death.

Bamberger, in his article* upon the theory and treatment of phosphorus-poisoning, states that in his experiments with animals he never found icterus in animals acutely poisoned; on the contrary, he always found extensive fatty degeneration,

* *Medicinalische Zeitschrift*, E. Bd., 1 Hft, 1865.

and he considers this pathological change as perfectly characteristic of phosphorus-poisoning.

It only needs to be proved that our patient really took phosphorus. Owing to the facility with which the poison can be procured, Casper justly remarks, "It has become with us the most fashionable form of poisoning, and has superseded all other poisons;" but it was impossible to think of suicide in the present case, as the patient expressed himself as perfectly satisfied with his condition in life, his master, and his fellow-workmen. A murder was still more improbable. Through the courtesy of Dr. Weinberger, the physician of the corporation of shoemakers of Vienna, the matter was made much clearer. He told me that it was the custom among the shoemakers' apprentices to put the heads of matches into the bread and beer of their fellow-workmen, in order to enjoy the grimaces of the teased ones whenever they tasted the beer or bread so disgustingly prepared. Direct inquiry at the shoemakers', by Dr. Weinberger, showed that our patient, particularly, was in the habit of practising the joke, and that he enjoyed exceedingly the grimaces of his comrades. Whether one of his comrades had taken revenge, or whether he himself had taken the beverage prepared for another, is impossible to say. Of course, such information has for us no special interest, after the fact that such was his habit has been fully established.

According to Prof. Hoffman, one packet of matches, covered with yellow paper, as they ordinarily occur with us, contains one gramme of phosphorus. This quantity, however, is relatively very large, and it is, therefore, reasonable to suppose that our patient had taken very much less than one gramme. If we now take in connection with these citations from different authors the history of Jinesek, we may be permitted to state the whole matter thus:

From the microscopic, pathological, anatomical characters of the tissues, it is in the highest degree probable that phosphorus-poisoning existed. By no other known process could such lesions as described, so varied in kind and degree, be produced.

The information of Dr. Weinberger renders the supposition still more highly probable. In fact, the probability almost attains to certainty.

The quantity of phosphorus swallowed could not possibly be so great as to cause

the immediate death of the patient. The hypothesis is that if the fatal cerebral hemorrhage had occurred in another organ not so essential to life, the patient would probably have recovered from his illness.

I hope that this paper will be the cause of observing more clearly and distinctly all the symptoms of purpura-patients, and that in every case a chemical analysis of any vomited matter will be made.

March 1, 1882.

ADHESIVE STRAPS UNITED BY BUCKLE AND TONGUE IN FRACTURE OF THE PATELLA.

BY E. T. BLACKWELL, M.D.

THE plan of Dorsey, itself a figure of eight with its folds secured to the posterior splint, has been employed with various modifications and many different materials. Agnew's substitution of adhesive straps for the tapes of the latter, with the addition of a key, working in the posterior splint to adjust the force applied, is, perhaps, the best. All the forms of Dorsey fail to apply the power in the line of resistance. The hooks of Malgaigne are not liable to this objection, but their application to the living tissues is dreaded by both surgeon and patient. Extension of the quadriceps muscle by weights suspended from the surface of the thigh by means of adhesive plaster, and counter-extension by sand-bag to inferior surface of the patella, embody an efficient principle of treatment which can only be carried out in one position, and this is tedious and irksome. The lock-strap is inefficient from the necessity of frequent reapplication to regain the loss occasioned by the slipping of the skin and superficial fasciæ upon the muscles, whereby the extension and counter-extension are diminished.

The apparatus that I have devised obviates this latter difficulty, and those which lie against the other forms: it is easy of application, comparatively painless, makes traction in the line of resistance, and may be tightened daily without disturbing the fragments.

The force is applied as follows. Take two pieces of perforated plaster in rubber combination, long enough to cover the leg and thigh respectively, and about three inches wide. A few inches from the end of each, cut in equally from both edges, so that these will meet when the

spread surfaces are turned together. This forms a tongue for one of the strips. To the corresponding one a strong buckle is to be attached by sewing. Fasten one strip to the leg, so that the buckle is opposite the fracture; the other to the thigh, so that the point of the tongue will reach and pass through the buckle and be lightly secured. Strips of plaster may be placed across the extending ones for greater security. The spiral is next applied above and below the knee. A small, rather firm compress is placed beneath the extending and counter-extending bands, so that, as the tongue is now forcibly drawn through the buckle, the severed portions of bone may be brought together. This has occurred immediately in the cases operated on by me, though, if the gap were wide, it might have to take place gradually. Carded cotton is to be tucked beneath the buckle to prevent chafing. The spiral bandage is now to be continued about the parts in such a way as to co-operate with the force already applied. A splint of some plastic material is now to be moulded to the limb posteriorly, and fastened in the usual way, and the patient's foot so adjusted upon a pillow as to prevent all strain upon the tissues in front of the limb. Daily inspection is necessary, in order that the force exerted be efficient and comfortable. When union is secured, but not firm enough to justify passive motion, the immovable apparatus may be applied, the silicate dressing being perhaps the best. Near the end of the sixth week, possibly sooner, passive motion may be commenced, the surgeon keeping up firm pressure above the upper fragment by one of his thumbs. A suitable liniment with friction may be used about the stiffened tissues if thought necessary. Two cases are herewith subjoined in which this treatment was successfully carried out.

Case I.—In the winter of 1879–80, Mr. D., an athletic young farmer, had one of his patellæ fractured by being suddenly precipitated from a prostrate tree, upon which he was standing while wielding an axe. The family physician applied a long posterior splint, and elevated the limb. On its failing to unite in the time usually allowed in fracture, I was called to his assistance. The bone was found to be broken transversely, and one of the fragments vertically. Adhesive straps were applied as detailed above; the posterior splint being retained. Firm union followed, the stiffness resulting from the long disuse of the

limb was successfully overcome, and the patient was able to follow the plough and to do all farm-work without any limp.

Case II.—Mrs. S. sustained fracture of right patella by a trip, occasioned by the starting of a car from which she was descending, about noon, January 17, 1882. When I saw her at four o'clock P.M., the parts about the joint were greatly swelled, and there was extensive ecchymosis beside and beneath. The fracture was across the lower third. Adhesive straps were applied, as heretofore described, binders' board being adapted to the limb posteriorly.

January 23.—Additional force has been applied through the tongue and buckle, from day to day. The broken portions are in good apposition, the line of severance being just distinguishable. The direction of traction appearing to be rather to one side, additional straps and a buckle were placed beside those first affixed, in the same way.

January 27.—The limb still shows the extensive suggillation which has been so marked along the sides of the knee, and in the popliteal space, extending far up the posterior and outer side of the thigh. The limit below seems to be continuous with the bursa of the joint. The swelling—great at first—has mostly subsided. The portions of the patella, never very widely separated, appear to be closely approximated. The limb is kept elevated, so that no strain occurs to the great muscles on the front of the thigh.

February 11.—The fractured parts are well apposed. The force, lost by the continual "giving" of the exterior tissues, was regained by shortening the strap to which the buckle was attached, and turning in an additional portion of the opposite strap, allowing it to be pulled farther through. A thin layer of carded cotton was now spread over the constricting bands, and the silicate dressing was applied in the usual way, additional binders' boards being placed posteriorly, with an interval between the pieces for facility of cutting through in removal. The apparatus did not secure absolute immobility; but the patient kept the limb supported as before, and the indications were fulfilled.

February 17.—Applied additional binders' board,—an entire sheet in all,—fastened the whole securely by a roller, and the solution of silicate of sodium.

February 25.—Removed the fixed dressing on this, the fortieth day of treatment, by cutting through the coverings on the posterior of the limb. The line of union is well defined, the upper fragment being slightly depressed below the lower piece. Some passive motion was made, the thumb of the left hand making firm pressure against the upper edge of the knee-cap. This was continued daily, the silicate splint being worn meanwhile. Notwithstanding Mrs. S. had some intercurrent troubles, including fever and the casting

off of a fœtus of the early months, the passive motion was persevered in. On March 10, a liniment of iodine, chloroform, and camphor was used about the joint, with friction and passive motion.

March 15.—The knee can be flexed to a right angle with the thigh. The parts about the joint are still swollen. On March 18, she reached the window, supporting herself on the way from chair to chair.

March 21.—Patient removed to Haddington in a carriage. On April 12, she is hobbling about the house without support. The knee can be folded far back on the thigh. Considerable swelling yet exists.

May 10.—Mrs. S. walks with a limp, which, it is believed, will entirely disappear in time, as very close union of the patella has taken place, and the joint is flexible and supple.

APPARATUS FOR COLLECTING MICROSCOPICAL PARTICLES FLOATING IN THE AIR.

BY C. W. DE LANNOY, M.D.

WITH the intention of devoting some time to the study of this branch of scientific research, I consulted a number of the works of renowned authors, but invari-

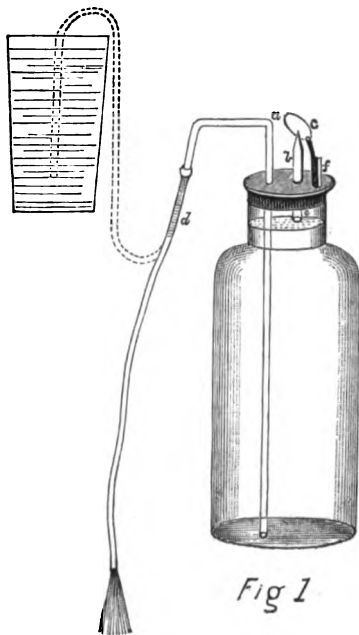


Fig 1

ably found that the agencies used in the collecting of germs and solid microscopical impurities in general consisted of expensive apparatus, including suction and pneumatic machines, flasks with air-tight

stop-cocks, etc. Not feeling disposed to purchase any of these, the following simple contrivance occurred to me as fulfilling all the requisite conditions. A wide-mouthed bottle, holding about three pints, is fitted with a good cork (Fig. 1), the latter perforated at two points of its surface to admit the passage of two glass tubes, *a* and *b*. Tube *a* is made sufficiently long to reach the bottom of the bottle, and outside the cork is bent over and down, like the discharging-tube of an ordinary siphon. To avoid the danger of breaking, its distal extremity is short, and provided with a piece of rubber tubing of necessary length (*d*). The short tube, *b*, simply passes through the cork, and no more, terminating externally in a fine point, with the smallest possible perforation. At *f* is a support for a spring clasp, which holds a thin cover-glass, such as are used by microscopists. This is held so as to impinge slightly upon the point of tube *b*. The flask, thus arranged, can be hermetically sealed with ordinary red wax. The bottle is readily filled by raising the rubber tube, *d*, placing it in an elevated reservoir of water, thus making of it a receiving instead of a discharging medium. To place the apparatus in readiness for use, the bottle is thus filled with water, and the well-cleaned cover-glass is slightly moistened with pure glycerin. It can now readily be seen that as water passes out through the tube *a*, air necessarily enters through the tube *b*, and, coming in contact with the moistened glass surface, will there deposit its impurities. If, before the bottle is quite empty, it be again filled as above described, the volume of air just admitted can be driven out through the same opening, striking the glass a second time, and thus insuring more complete filtration of the specimen examined. In many cases the particles floating in a given atmosphere are not over-abundant: it would then be well to repeat the emptying and refilling of the flask a number of times, in order that enough might be collected to warrant an opinion.

I have as yet used this apparatus in the examination of air within dwelling-houses only, and with no special object in view at the time. Greater security against breaking, where it became desirable to examine the air in wells, sewers, and cesspools, might be obtained if the pointed extremity of tube *b*, as well as the cover-glass, were

placed inside the neck of the bottle; these more delicate portions would be thus thoroughly protected.

The advantage to be claimed for the apparatus is that the impurities collected always represent a quantity existing in a known volume of air, the latter ranging from the volume of the flask to many times its cubic contents, if desired. The impurities I have found in the air of my own office consist of particles of carbon, probably from smoking, minute fragments of lint from carpets and furniture, epithelial cells, and an infinite number of undetermined impurities, which might have been recognized with the use of high magnifying powers.

CHESTER, DELAWARE COUNTY, PA.

ANOTHER TRIUMPH FOR WHISKEY OR DILUTE ALCOHOL AS AN EXTERNAL DRESSING.

BY J. L. SUESSEROTT, M.D.

MY advocacy of whiskey as an external dressing, which has now been for fifteen or twenty years,—two or three articles on the subject having appeared in your journal,—may be growing monotonous to you; but my excuse for reporting the following case is based upon the fact that so few of our leading surgeons have seen fit to adopt this article, so agreeable to the senses of touch and smell, in preference to many now in use that are not pleasant to patient, nurse, or operator. In Ashhurst's "International Encyclopædia of Surgery," on page 591, I notice the report of a remarkable recovery after a *double synchronous* amputation in the case of George —, who was admitted to the University Hospital June 4, 1879. At the conclusion of the report, Dr. Ashhurst says, "An alcoholic dressing was substituted for the oiled lint after the first forty-eight hours; the last ligature came from the leg-stump on the eighth, and the femoral ligature from the hip-wound on the twelfth, day. The patient was kept in hospital until January, 1880, his wounds having then been entirely healed for about four months."

Now, my query is, why was the alcoholic dressing not used at once? If kept damp, it would have been as readily removed for renewal as oiled lint, and, being so good an antiseptic, its renewal would not have been required for even longer than forty-

eight hours. The benumbing and gently stimulating effect of the alcohol certainly favors union by first intention, and I maintain that there is no tissue or cavity of the animal economy so sensitive as to forbid its use.

On Sunday, August 20, in an altercation with a powerful negro, Peter P., also colored, received a fearful blow from a heavy base-ball bat on the right side of the head. The parietal bone of that side was crushed, the lower fragments pressing upon the brain. He was entirely unconscious, with a feeble pulse of forty per minute. After waiting for several hours, in the hope of returning consciousness and better heart's action, my son, Dr. L. F. Suesserott, in the presence of Drs. E. Brallier, John Cline, and myself, removed the depressed portion by means of the trephine. The one portion removed was almost comminuted, but a very small amount of coagulum was found beneath the bone. After all foreign substances were removed, the wound was closed, only two sutures being required to hold the apices of the flaps in contact. A compress well saturated with whiskey was applied, and the attendants were instructed to keep it saturated by pouring from the outside without removing the bandage. P. continued in his semi-comatose condition, with stertorous breathing, for two days and a half, with occasional maniacal manifestations, when he began to resist any interference with his head. On the fourth day the sutures were removed, leaving the lines of incision entirely united, without the least suppuration or any other untoward symptom. At this writing—twelve days after the injury—the patient's mind appears to be as strong as ever, and, if allowed, he would venture out of the house. It must be remembered that the soft tissues, although not very thick in that locality, were, notwithstanding, bruised and almost pulpified, and these are now in a healthy condition.

I trust that those who have used this greatest of all remedies for *local* application will report their experience, and that it will come into more general use.

CHAMBERSBURG, PA., September 1, 1882.

DEATH FROM CHLOROFORM.—A lady died in England recently from inhaling chloroform to relieve a toothache. She was found dead in bed in the morning by her husband, who was a physician.—*Medical Times and Gazette*, August 5.

STUDIES ON MYXO-ANGIOMA OF THE SKIN, CLINICAL AND MICROSCOPICAL.

Read before the American Dermatological Association at its Meeting in Newport, R.I., August 30, 1882.*

BY C. HEITZMANN, M.D.,
New York.

TUMORS of the skin, termed *angioma*, or *vascular* or *erectile tumors*, are of frequent occurrence. They appear either as purplish spots, sharply marked from the neighborhood, or as dark-red elevations, sometimes distinctly pedunculated. These tumors are more or less compressible; they, in the majority of the cases, are not congenital, but appear in early childhood, remaining stationary or slowly extending over the surface of the skin. Congenital angioma is known as *naevus flammeus*. It is sometimes pigmented, and is usually freely supplied with hairs.

We distinguish three varieties of angioma,—the simple, the lobular, and the cavernous angioma. In the first two forms, arterial, venous, or capillary blood-vessels may prevail, while in the third form the veins are mainly involved. In *simple angioma* we find a more or less uniform distribution of the blood-vessels, and between them, as a rule, myxomatous connective tissue, establishing the diagnosis myxo-angioma. *Lobular angioma* is composed of coils of blood-vessels, which are held together by a delicate fibrous connective tissue, between the coils there being coarse fibrous connective tissue. *Cavernous angioma* is venous in nature, and represents an imitation of the structure of the cavernous bodies of the penis. Angioma, though of a strictly benign nature, sometimes breaks open by ulceration and leads to hemorrhage, which becomes alarming only in the cavernous variety. The latter is sometimes painful in a high degree.

As therapeutic measures, excision, cauterization, vaccination, and the artificial ulceration by irritating remedies have been resorted to. Small tumors are best destroyed with smoky nitric acid transferred on the point of a hard wooden stick, which is simply saturated with the acid. Pedunculated tumors are cut off by a pair of curved scissors, the cut surface being immediately afterwards touched with liquor ferri sesquichloridi. Larger tumors need excision with the knife. Electrolysis serves

in many instances for the destruction of the blood-vessels, if the negative pole of a constant electric current is brought to bear upon the newly-formed tissue by means of numerous applications with needles. Whether the success thus obtained is permanent will be demonstrated by observation of the tumors operated upon for a number of years. The method is of too recent a date to allow any positive statements as to its value.

Myxomatous tissue, which is largely involved in the construction of myxo-angioma, appears as medullary, reticular, lymph, or adenoid tissue, and also in the form of a tissue resembling that of the thyroid body. Myxomatous tissue is present in large quantities throughout the animal body in the earliest stages of embryonic development. It also forms exclusively the tissues of transient service, such as the placenta and the umbilical cord. In the adult, myxomatous tissue is met with only in the vitreous body of the eye, in the lymph-tissue, including the layers widely spread over the so-called mucous membranes, erroneously termed adenoid tissue. It is most prevalent in the alimentary tract and in the mucosa of the uterus.

The reticular variety is the most likely to form soft, benign tumors, termed "myxoma," and this variety constitutes also the basis-substance between the blood-vessels in the myxo-angioma. Here the blood-vessels are constructed of large endothelia, and are characterized by a comparatively wide caliber. In rare cases, pigment is found in myxo-angioma, which indicates a tendency towards the formation of a malignant type, the sarcoma (myeloma), especially the melanotic myeloma. If such a change takes place, the attempts at eradication of the tumor are usually not successful.

REMARKS ON THE USE OF ERGOT IN SKIN DISEASES.

Read before the American Dermatological Association at Newport, R.I., August 31, 1882.

BY C. HEITZMANN, M.D.

DR. LE GRAND D'ENSLOW, while attending my laboratory in the spring of 1881, drew my attention to the internal administration of ergot being of advantage for the treatment of acne disseminata and rosacea. Later the doctor published his experience on this drug in the *New*

* For report of meeting, see last issue of the *Medical Times*.

York Medical Journal, and I have employed it, at his suggestion, in a number of cases, and the results I think of sufficient importance to bring before this Association. I used Squibb's fluid extract, mixed with glycerin and water in half-drachm doses, twice daily. The remedy, in my hands, never produced any evil effects whatever, and was efficacious in a number of cases.

I can corroborate fully Dr. D'Enslow's assertions in the treatment of the above-named diseases. In the majority of cases the drug proved useful in producing a rapid cure, so far as acne disseminata is concerned, especially the forms with large pustules, while in a small percentage of cases no result could be observed from its administration. In both the erythematous and vascular forms of rosacea the remedy proved to be of value in a certain number of cases, though these are less numerous than in acne. I consider the remedy an important adjuvant in the cure of the named diseases, especially if combined with proper local treatment.

I have tried the ergot in a limited number of cases of eczema and psoriasis, without any apparent result; but in erythema, urticaria, and pruritus, it seemed to have had decided effect in speedily removing the disease, though only in a certain percentage of the cases. As regards erythema, positive assertions are to be made cautiously in the face of the fact that this form of dermatitis comes and goes rapidly, and disappears sometimes without any therapeutical interference. In several cases of urticaria, lasting for months or years, ergot seemed to have an immediate curative result, not only in females, where the remedy might have acted upon the uterus, but also in males. In pruritus, ergot gave immediate relief in a certain number of cases, while in others no effect was noticed after its administration.

The remedy certainly deserves faithful trials in different skin diseases, the more so as it is, at least in the dose above mentioned, harmless. The philosophy of its action is very much in the dark. Dr. D'Enslow claims that in acne and rosacea it acts upon the arrector pili muscles of the skin, the contraction of which would assist in emptying the sebaceous masses,—a view which I consider fully legitimate.

37 WEST FORTY-FIFTH STREET, NEW YORK.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINIC OF DR. LOUIS A. DUHRING, PROFESSOR OF DISEASES OF THE SKIN.

Reported by HENRY WILE, M.D.

ACNE ROSACEA.

THE patient is a man 30 years of age, of spare frame, and poorly nourished. We see before us a typical case both of acne and of rosacea of the nose and cheeks, more, however, of rosacea than of acne being present. The acne is confined to the cheeks, while the rosacea covers the nose, especially the alæ, but extends also upon the cheeks. The former consists of papules, papulo-pustules, and a few pustules, the latter of a bright red chronic hyperæmia, with dilatation of the vessels of the skin. The disease is rather sharply defined in outline, and contrasts strongly with the neighboring healthy skin. The patient states that he has had the disease about eighteen months, during which time it has developed gradually; that for the last ten months his health has been poor, having suffered from a severe cold on his chest, and also from gonorrhœa. The patient certainly presents an unhealthy look. He has probably worked hard, been irregular or intemperate in his habits and mode of life, and as a result has provoked dyspeptic disorders, which in turn disturbed the power of assimilation. In the treatment, therefore, it is of importance to regulate the diet, mode of life, and hygiene. All heavy, fatty, and stimulating food should be avoided. Local treatment, however, is of most importance, and where the disease is obstinate we are obliged from time to time to use various remedies. One remedy, which is well known in the treatment of acne rosacea, is "Vlemminckx's solution," which is prepared as follows:

℞ Calcis, ʒss;
Sulphuris sublimati, ʒj;
Aquæ, fʒx.

Boil down to fʒvi, and filter.

Sig.—Dilute fʒj of solution to fʒiv of water, and dab on at night.

This solution should be used diluted or full strength until scaling occurs, when it should be discontinued for a few days. After that it should be used again, gradually increasing in strength. Plain sulphur is also very valuable in one form or another, as, for example, as an ointment, in

the strength of one to two drachms to the ounce.

ACUTE DIFFUSED VESICULAR ECZEMA.

A man 35 years old, to all appearances well nourished and healthy, states that the eruption which we see first showed itself four weeks ago. It covers almost the whole surface of the skin; the back, however, seems to be the least affected portion. He further states that he has used treatment, and from appearances it may be judged that this was extreme, and by it the lesions have doubtless been aggravated. Examining the different portions of the body more closely, we find on the shoulders a characteristic patch, which consists of minute broken-down vesicles about the size of a pin-head. On other portions of the body the lesions are vesico-papular.

The patient states that he has used sulphur soap. This has undoubtedly set up an inflammatory process in addition to the original disease; for it is well known that artificial dermatitis may be produced by the persistent use of sulphur or other similar irritants on the skin.

The chief subjective symptom is itching, which is at times violent, especially when a new crop of vesicles are appearing.

If the disease is not subdued now it may go on to a more troublesome form,—eczema rubrum. The patient has been using a laxative—the bitartrate of potassium and sulphur—for the past three or four days. We will advise the continuation of this for a week or ten days longer. The remedy is in place. The patient has a good constitution, and is well able to stand slight purgation. The sulphur applications externally will of course be discontinued, and diachylon ointment (composed of equal parts of lead plaster and the best olive oil) will be used twice daily. Where the disease is so universal as here, it usually runs a more acute course than when it occupies a smaller territory. The prognosis, therefore, is not unfavorable.

ECZEMA RUBRUM INFANTILE.

A baby, 6 months old, exhibits a marked disease of the skin. According to the mother's statement, the eruption has existed three months. It is a very common disease of infants, and in this case it has affected both the face and the scalp. There is much œdema of the parts, and the inflammatory symptoms are marked. The

lesions are characterized by greenish and brownish crusts, varying in size from a quarter to a half inch in diameter. Back of the ears there is considerable swelling, with fissures not unlike those found in syphilitic disease. There is oozing of serum, and sometimes of blood, from the excoriated surfaces, which dries rapidly and forms crusts. There are, as is well known, different stages in this disease, and here we have what is known as the moist stage, or eczema madidans.

Eczema rubrum in infants is often a difficult disease to treat. After the crusts are removed, and the parts are thoroughly cleaned with soap and water, I will advise the application, twice daily, of black-wash, to be followed by an ointment made of equal parts of oxide of zinc ointment and petroleum ointment. After three or four days the lotion should be discontinued, and the treatment should then consist of the application of the ointment only. Directions must also be given as to the food and hygiene, and the condition of the digestion should be carefully noted. Tar ointment often acts well, but it must be used with discretion, as it sometimes proves to be dangerous in aggravating the symptoms.

ECTHYMA.

A girl 11 years of age, spare and pale, with average general health, though subject at times to headache and dyspeptic symptoms. She states that she has never had any skin disease before the present eruption, which appeared about six weeks ago. At first one or two lesions in the form of small flat pustules made their appearance just below the knee, then the pustules came out in crops, some of which, coalescing, formed pustular patches varying in size from one-half inch to one inch in diameter. After a few days, these patches, which were rounded or ovalish in shape, and were sharply defined and flat, began to dry and form brownish crusts. This is the usual course of development of the pustule of ecthyma. The lesions are angry-looking during the acute stage, yet they are superficial, the upper layer of the corium only being involved. It may also be noticed that where some of the lesions have healed there is a pigmented scar; but this will disappear after a time.

Ecthyma is an acute disease. It runs its course in from two to eight weeks. It usually attacks the lower extremities. The

cause of the disease is generally to be found in a low tone of the system, produced mostly by poor food, bad hygiene, overwork, etc.

The disease, as a rule, responds readily to treatment; and by keeping the cause in mind, the use of the appropriate remedies will be followed by success. The treatment consists in the administration of tonics, such as iron, cod-liver oil, quinia, etc., together with a nutritious diet, fresh air, rest, or proper exercise. As a local dressing, any simple, mild, stimulating ointment may be used, such as the following:

R Hydrargyri ammoniati, gr. xv;

Ung. zinci ox. benz., 3j. M.

Sig.—Apply twice daily.

TRANSLATIONS.

NAPHTHALINE AS AN ANTISEPTIC DRESSING.—The unfortunate results that have been reported recently from the free use of iodoform in German hospitals have led surgeons to regard it with some distrust. Dr. Fischer (*Berliner Klin. Woch.*, No. 46, 1881, and Nos. 8 and 9 for 1882) recommends *naphthaline* as an antiseptic dressing to substitute the iodoform, as possessing its advantages without its dangers. Adopting the suggestion, Dr. Anschütz used naphthaline in about ninety cases, the results of which he communicates in the *Centralblatt für Chirurgie* (No. 32, for August 12). It was claimed by Fischer that this remedy possesses energetic anti-bacterial and antiseptic effects, and that it is the more applicable to surgical uses because it is entirely free from any intoxicating influence. This he considered to be due perhaps mainly to its insolubility in water, and consequently in the discharges from the wound; hence it is impossible for absorption to take place from the surface of the wound. Dr. Anschütz enumerates also among the advantages the cheapness (about one mark per kilogram), and the fact that it is used in powder, and is therefore much more convenient for transportation and for use than Lister's plan of dressing wounds, for instance, in military surgery, and especially for the primary dressing in the field. It does not interfere with primary union, nor cause pain or irritation. The results obtained by Anschütz did not conform exactly with the former reported by Fischer, as in some wounds with much offensive se-

cretion the smell was not entirely prevented by the dressing, and in some cases the powdered naphthaline formed a crust which retained the discharges; in others some blood was mixed with the secretion, as if the crystals of naphthaline had injured the granulations. Further experiments and observations are needed to establish finally the value of this agent in surgery.

FAT EMBOLISM AFTER FRACTURE.—From a careful study of the cases, and a review of the literature of fat embolism, Dr. A. Minich (*Lo Sperimentale*, 1882, No. 3) has been led to consider that the condition is much more frequent than has been supposed. He concludes as follows: (1) In every fracture there is more or less fat embolism, though in children it may be wanting or very insignificant, on account of the small amount of fat contained in their bones. (2) Very seldom is fat embolism by itself the cause of death or alarming symptoms. (3) Non-infectious fat gives rise neither to pyæmia nor inflammation. (4) Death depends principally upon the suspension of function of the nervous centres, which is reduced by ischæmia. (5) The presence of pure or emulsified fat in the urine occurs chiefly in severe and dangerous cases of embolism. It may often appear without grave symptoms. (6) The occurrence of death from fat embolism after fracture must be borne in mind. (7) The therapy is merely, thus far, symptomatic and of very little effect in preventing a fatal result.

BORACIC ACID POMADE.—Champonnière gives the following formula:

R Acid. borac., gr. vi;

Vaseline, gr. xxx. M.

The acid to be very finely powdered and directly incorporated with the vaseline. To this may be added the balsam of Peru, ℥ viij (gr. 50), to give it an agreeable odor.

The ointment being antiseptic and non-irritating, it may be used for excoriations, superficial wounds, eczema, intertrigo, and especially the erythema of the buttocks of infants. In fetid perspiration of the feet this pomade may be applied, after bathing, with excellent effect.—*La France Médicale*, No. 20.

"WHAT is the action of disinfectants?" was asked of a medical student.

"They smell so bad that people open the door and fresh air gets in," was the reply.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 23, 1882.

EDITORIAL.

KANE.

AT the highest point attained by the Philadelphia and Erie Railroad in crossing the Alleghany Mountains, ninety-five miles from Erie, is situated a small but thriving settlement named in honor of Dr. Elisha Kent Kane, the Arctic explorer, by his brother Major-General Thomas L. Kane, who has large land-interests in this portion of Pennsylvania. Within a few years Kane has acquired some reputation as a health-resort during the summer with physicians in Philadelphia, Harrisburg, Erie, Cleveland, and other cities; and, as they are in the habit of sending patients to this place, its peculiar features deserve to be studied.

The hotel, the Thomson House, is situated upon an elevation in the midst of a natural park, the enclosure containing between six and seven acres of woodland. The railroad-station is in the immediate vicinity, and the trains stop in front of the hotel for the accommodation of guests. The house presents quite a striking appearance from the railroad, both from its surroundings and its style of building. Constructed, as it has been, with a view to comfort and convenience, and not on the model of the sea-side hotels, it has remarkably large rooms, with high ceilings, wide halls, and large porches. As it has only three sleeping-floors, and as so much space is devoted to the rooms, it results that the total number of rooms is small, and a hundred guests is about its full capacity. The house is well furnished, the table good, and the service first-class. There is no bar, but there is an abundance of exhilarating fresh air to be had on the porch, which

cheers but not inebriates. The settlement is situated upon a large plateau known as the "Big Level," or "Clarion Summit." It has an elevation of over two thousand feet above tide. The mountain-top is covered with primal forest, principally consisting of hemlock and beech. The air is dry and pure, and there is an abundance of clear spring-water that is supplied to the hotel, which is unusually free from mineral matter and has no organic impurity. A sulphur spring also is in the neighborhood which might be utilized. There is no poison-oak to render a walk in the woods dangerous, and there are no snakes to fear; especially it should be stated that there are no rattlesnakes. The scenery is that of a great lumber region,—wild, and in many places strikingly beautiful. The woods are dry and open, massive rocks are found that excite awe and admiration, while the mountain abounds in trout-streams that have not been fished out, and there is gunning for those who can indulge in the sport. The roads are good, and riding and driving are easily enjoyed at moderate expense. Being near the oil-regions, there are abundant deposits of gas, and natural gas-wells are common. The famous spouting-well of Wilcox is only four miles away, and is well known as one of the great objects of interest of this region.

As a health-resort, Kane is becoming known as a hay-fever station, and each year more visit the locality in order to escape their annual infliction; and they speak very highly of the place. The pure, dry mountain-air stimulates nutrition, so that a rapid gain in weight is commonly observed. Convalescents here rapidly recover. Chronic pulmonary troubles, especially of a catarrhal character, are greatly benefited, and gastric indigestion is also rapidly relieved. Contrary to general opinion, there is no suitable accommodation for invalids yet at Kane, as the hotel is unable even to accept all the applications from the well; but a hospital will soon be

established through the liberality of General Kane, who has already endowed it. Increased hotel accommodation also is needed, and will soon be furnished, it is believed, by the erection of a hotel at Mount Jewett, near the Kinzua iron bridge, which is one of the wonders of the world, —the highest bridge on trestle-work ever constructed. It is on the line of an extension from the New York and Erie road, now nearly completed. This new connection will bring Kane into increased notice, will make it more accessible, and will greatly aid in the development of what promises to be a great, if not the greatest, health-resort in Pennsylvania.

ETHER VERSUS CHLOROFORM.

IN an editorial in the last issue of the *Virginia Medical Monthly*, the following quotation is made from an editorial in this paper, and characterized as intemperate language: "The dangers which surround chloroform have been too frequently written about and have been too often tragically exemplified to need further comment. He who still persists in the habitual use of chloroform seems to us beyond the reach of argument or human speech. We let him alone."

Surgeons who still use chloroform will no doubt agree with our Southern *confrère*, but, in all soberness, to us the language seems to have its appropriateness proved by the very editorial that condemns it. Respect for authority, but especially long habit, certainly will place a man in such a position that he cannot or will not see the force of argument against the cause he advocates. Now, the argument is not, as is represented in the article alluded to, "an assumption of the safety of ether," but it is that ether is far less dangerous than chloroform, and that without good reason no man has a right to expose life to a risk which is so very appreciable. The latest full collection of the cases of anæsthetic

deaths (Lyman's, 1881) gives accounts of three hundred and sixty-eight cases of death from chloroform, whilst the number of the ether deaths is twenty-seven. Three hundred and sixty-eight *versus* twenty-seven; this is the kernel of the debate. A big cemetery full of dead, a little corner of a graveyard.

Another proof of the hopelessness of reasoning with the advocates of chloroform is shown by the following quotation from the editorial in the *Virginia Medical Monthly*: "Only recently we get an account from England, by Mr. Lawson Tait, of a *death from ether*. The patient was a lady, who was operated upon for abdominal tumor. The ether used was 'absolute anhydrous *methylated* sulphurous ether, .717.' " Now, methylated sulphurous ether is not ether,—*i.e.*, oxide of *ethyl*,—but a distinct chemical compound, and the whole case is foreign to the discussion.

LEADING ARTICLES.

THE CLINIC ON SYPHILIS AND SKIN DISEASES AT THE ROYAL CHARITÉ HOSPITAL, BERLIN.

THE clinic on syphilis and skin diseases, held during the regular sessions at the Royal Charité Hospital, is under the efficient direction of Prof. Dr. G. Lewin. In the literature Prof. Lewin is regarded more as one of the leading syphilographers, but as a dermatologist he also ranks high as an authority on the Continent. He is the oldest professor in active service in his branch on the Continent, and has thus far identified himself with the interests of the Royal Charité for the past twenty years.

The Charité is evidently a German institution, embodying in it that spirit of monopoly and concentration which has so characterized the politics of the German nation for the last fifteen years. With the exception of a few small private sectarian hospitals, the Royal Charité is the great asylum in which all the sick of Berlin seek refuge. The number of patients annually treated here in all departments is

about 17,500. Out of this number about 6000, or 33 per cent. of all the sick at the Charité, come under treatment in the division for syphilis and skin diseases. The explanation for this great number is the fact that all the syphilitic cases *must* go to the Charité for treatment. The regulations in regard to prostitution are peculiar. There are no public houses of prostitution allowed in the city, but the number of prostitutes who ply their trade in the coffee-houses, restaurants, and upon the public streets especially, is simply enormous. They are for the most part under police surveillance, and are compelled to present themselves for examination twice a week before certain medical officers appointed for the purpose. These women are all registered, and if they fail to appear they are arrested and punished. As soon as one becomes infected with syphilis, or presents suspicious symptoms, she is immediately sent to the Charité and kept there secluded until pronounced cured by the directing physician. Thus, out of this army of *puella publica*, many are daily sent to the hospital from all quarters of the great capital. The advantage of such an arrangement is to furnish complete histories of all the cases, by which the number and character of the relapses, also the influence of treatment, can be accurately determined, analyzed, and compared. This is not possible in other large cities, like Vienna, Paris, or London, because in these cities the prostitutes go indiscriminately from one hospital to another.

Under the system followed out in Berlin it is rendered possible to figure out the number and character of relapses which appear after the different modes of anti-syphilitic treatment. This has been done, and a comparison of the efficacy of the different methods of treatment has been instituted.

The *subcutaneous sublimate injection* was discovered and practically applied as a method of anti-syphilitic treatment by Prof. Lewin in 1865, and up to the present time has been used by him on upwards of 50,000 patients. The result of the treatment is as follows. Whereas after the *sweat cure* (Zittmann) 90 per cent. of all patients had relapses, and after the *inunction cure* 80 to 85 per cent., after the *subcutaneous sublimate injection cure* only from 30 to 35 per cent.

had relapses. In addition, the relapses after the last-mentioned cure are benign, so that at the present time there is not one bad case of relapse in the Charité Hospital. The advantage of the method is the safety with which it can be applied. Abscesses at the point of injection never occur, and the pain is insignificant. The gluteal region is the part of the body chosen for the injection.

The method of instruction at the clinic is, in a general way, as follows. First, a history of the disease is given, together with its different stages of development; then the symptoms in their order,—subjective and objective; then the pathological anatomy, macroscopical and microscopical appearances, with an exhibition of microscopical preparation from time to time; then follow the diagnosis, differential diagnosis, treatment, and prognosis.

Taking advantage of the abundance of material, both in syphilis and skin diseases, Prof. Lewin brings before the students cases, syphilitic and non-syphilitic, presenting lesions which bear great resemblance to one another. The points of resemblance and difference are sharply brought out, and in this way good exercise is given in the most important matter of differential diagnosis. Another valuable feature of his course of instruction is the exhibition of a collection of graphic illustrations. They are, for the most part, paintings, life-size, executed in oil colors, and by competent artists. At the present time the collection consists of 150 charts, averaging one and a half metres long by one metre wide. On these charts there are, on the average, about ten different illustrations, making altogether about 1500. The principle which underlies the execution of these paintings is as follows:

(a) Macroscopically,—a life-size representation of the whole person, as well as the individual parts, where the lesions were more pronounced.

(b) Microscopically,—a representation of microscopical appearances, taken from sections of the lesions, for the most part executed by the professor himself.

(c) Differential diagnosis,—a grouping side by side of similar disease-processes, viz., of testis tuberculosis, sarcoma, carcinoma, etc.

By the way, there were six charts which seemed to me to be especially interesting and instructive on account of the com-

pleteness and clearness with which the details of the subject were represented. These charts represented the development of the testes, the complete anatomy of the normal mature testis, and, lastly, the different disease-processes which can occur in the testes. On one chart was to be seen the development of the Wolffian bodies up to the period where the differentiation occurs which determines the sex of the foetus. It could also be seen how certain tumors and cysts may develop from residual embryonic material, and how the hydatids of Morgagni were developed. On other charts the normal anatomy of the testis was represented by the side of disease-processes which may occur in gonorrhœa, syphilis, tuberculosis, scrofulosis, and in sarcomatous and carcinomatous degeneration.

There was still another chart which excited my interest: it represented the development of the cysticercus and echinococcus. From the first it was shown how this parasite gives rise to certain tumors of the skin, which, previous to the publication of an article on the subject in the *Charité Annalen*, 1877, by Prof. Lewin, were not well understood.

When the patients are presented as exhibiting a certain stage in the process of some syphilitic or skin disease, these charts are brought in in order to furnish a survey over the whole process, also to demonstrate the microscopical appearances.

In addition to the advantages which the student enjoys from such a mode of instruction, he is offered the opportunity, occasionally, of performing minor operations.

HENRY WILE, M.D.

TYPHO-MALARIAL FEVER.

WITHIN the past week there have been brought to my notice ten or twelve cases of a fever closely resembling that of which so much was seen during the war, and which was then described under the names of *miasmatic typhoid* and *typho-malarial fever*.

By this it was meant to indicate not a new, special disease, but that the ordinary type of typhoid fever was much modified by the poison of malarial fever to which the patient had been largely exposed.

The cases seen during the past week were, many of them, persons who had just returned from a popular watering-place. In one family four were the subjects of the disease, in another three, while the others were isolated cases. Another family, four of whom were ill at the same sea-side, were reported to me. In all these cases the malarial-fever symptoms very much masked or modified those of ordinary typhoid fever, which could only be positively recognized by *the red spot*. There was less disturbance of mind, less dryness, or tendency to it, of the tongue,—less than the usual tympanites; there was looseness of the bowels, but not much diarrhœa. Indeed, the symptoms in some of the cases were so mild that it was with difficulty the patient could be induced to keep his bed after the first fortnight of his illness. But with these mild symptoms the thermometer showed a marked rise in the temperature, and there was a very remarkable weakness of the heart's action, altogether disproportionate in its gravity to the other symptoms. In two cases there were laryngeal complications, so that the patient's voice was scarcely above a whisper; in one there was intercurrent pneumonia, and in others there were bronchitic râles.

These cases required no unusual medication. The free exhibition of quinia and the usual treatment of typhoid fever were generally followed by satisfactory results; but what was of especial importance was the necessity of early recognizing the typhoid-fever character of the disease, and the absolute necessity that the patient should keep the recumbent posture even long after this seemed necessary to the patient himself.

JAMES J. LEVICK.

REVIEWS AND BOOK NOTICES.

THE DISEASES OF THE SPINAL CORD. By BYROM BRAMWELL, M.D. Edinburgh, Mac-lachlan & Stewart, 1882.

We have read this volume carefully almost from beginning to end, and can honestly characterize it as a most excellent treatise, clear and concise, full and explicit. We have nothing but praise for it. The only doubt we feel is as to whether, in the hospital or sick-room, cases always can be marshalled into the hard and fast lines laid down in this treatise. We have seen cases of spinal diseases which could not be put in any of the

sections of Dr. Bramwell, and only wish post-mortem examinations had afforded us the means of discovering what they were. The author evidently has seen more of chronic than of very acute diseases of the cord. No mention is made of there being such an affection as acute congestion of the cord, with symptoms of ascending paralysis, and at the autopsy great fulness of the extra-medullary venous trunks and serous exudation; yet we are sure such disease exists. Meningeal spinal hemorrhage is said to be excessively rare; but, unless our experience be very exceptional, in this country it is not so uncommon, although intra-spinal hemorrhage is. One point not noticed in Dr. Bramwell's excellent diagnostic table is that whereas in true spinal hemorrhage there is a very abrupt ending to the symptoms, when the clot is outside of the cord there is a wide zone between the anæsthetic and normal skin. Dr. Bramwell is the perhaps correct that, as a general rule, the paralytic symptoms are less intense in extra- than intra-spinal apoplexy; but if the blood be poured out freely, the palsy may be absolute and yet no blood be in the cord.

CEREBRAL HYPERÆMIA: DOES IT EXIST?

By C. F. BUCKLEY, M.D. New York, G. P. Putnam's Sons, 1882.

We have looked over this book,—not read it, for reasons which we will try to make clear. The author begins by stating that it is a review or attack upon the work of Dr. Hammond entitled "Cerebral Hyperæmia," affirming that "his [Dr. Hammond's] is probably the most prominent name in the medical literature of this country at the present time." Thanks to the wide circulation of the *New York Herald*, and the sensation-affording possibilities of hydrophobia, forty-days' fast, etc., Dr. Hammond's name is prominent enough; but the only reason that we can assign for Dr. C. F. Buckley's believing it worth while to try to enlighten the American medical public concerning Dr. Hammond is that he (Dr. Buckley) has not been long in this country. The American medical public now know Dr. Hammond. He has fairly settled to his level, in their estimation. We have read "Cerebral Hyperæmia," appreciate the stuff it is made of, share the general medical opinion concerning its much-advertised author, and hence are not willing to waste time reading concerning it or him.

CAROTID COMPRESSION AND BRAIN-REST.

By I. LEONARD CORNING, M.D. New York, Anson D. F. Randolph & Co.

In this small brochure, Dr. Corning describes the results obtained by him in epilepsy, congestive headaches, etc., by pressure upon the carotids. He claims a great deal for the method of treatment, and describes two instruments which he has invented,—one for producing temporary pressure, the other more

permanent pressure. It is possible that in some cases it may be advantageous to affect the blood-supply of the brain in this way, but future study can alone determine the value of Dr. Corning's suggestions.

MENTAL PATHOLOGY AND THERAPEUTICS.

By W. GRIESINGER, M.D. Wm. Wood & Co., New York.

It is hardly worth while now to review a book which for a third of a century has been before the medical public. The present edition is seventeen years old. In Wm. Wood & Co.'s next-year series we hope to see a treatise upon the practice of medicine, embracing all the latest discoveries and improvements, by Noah, M.D., composed during his enforced tarriance upon the waters, and thoroughly revised upon Mount Ararat.

THE PHILOSOPHY OF INSANITY. By HENRY HOWARD, M.R.C.S.L. Dawson Brothers, Montreal, 1882.

Perhaps two short extracts will show the scope of this book of one hundred and thirty pages, mostly not worth reading: "From these facts we have also another proof that life is not in the blood, . . . but in the sensory nerves that originate in the skin." "I will now give such positive proofs as I have to offer in support of my theory that insanity is a physical disease, caused by a pathological defect in the sensory nerves and the organ of consciousness, or of the sensory nerves or organ of consciousness."

GLEANINGS FROM EXCHANGES.

J. MILNER FOTHERGILL ON MITRAL STENOSIS IN THE GOUTY HEART. — In a recent communication to the *Lancet*, Dr. Fothergill says that in the gouty heart "there is a permanent high blood-pressure in the arteries, leading to hypertrophy of the left ventricle, with subsequent hardening of the arteries,—the cardio-vascular changes which constitute the first stage of granular kidney, so ably described by Dr. Mahomed in his recent thesis, 'Chronic Bright's Disease without Albuminuria.' The hypertrophied ventricle contracts with vigor, so overcoming the resistance offered by full arteries to the cardiac systole and forcing the blood into the aorta, which on its recoil closes the aortic valves with a loud sound indicative of forcible closure; and this forcible closure frequently sets up valvulitis, with subsequent mutilation of the aortic valves. This association of aortic disease with the gouty heart is now well recognized. But the powerful contraction of the hypertrophied left ventricle causes also forcible closure of the mitral valves; they have to sustain a strain equal to the force required to overcome the resistance of the full aorta, and this strain tells upon them in time, leading to

a slow sclerosing endocarditis. Such valvulitis may give either stenosis or insufficiency of the mitral valve. When the free edges become puckered and contracted, then insufficiency with regurgitation follows; when the valve-curtains are soldered together by a slow inflammatory growth extending from the attachments of the valves, then stenosis with obstruction is the result. Now, whatever the form assumed by the valvulitis, the features of the gouty heart will remain to the end, even when all the phenomena of advanced mitral disease are developed and implanted thereon. The aspect is never that of simple primary mitral stenosis; nor does the interest centre round the murmur evoked by the morbid process, but attaches itself rather to the associated general condition of the vascular system.

"A certain amount of injury to, and deformity of, the valves has gone on before it is sufficient to produce a murmur. But there may be the rational symptoms of a mitral lesion before the ominous murmur is set up. It may be possible to 'suspect' a mitral valvulitis before the telltale murmur can be heard; there is, indeed, a premurmuric stage in all probability. It is no part of the design of the writer here to discuss this early stage, but to confine himself to the consideration of mitral stenosis,—*i.e.*, of a stage so advanced that it carries with it a murmur indicative of the character of the injury done. What are the features of this form of mitral stenosis?

"The patient is elderly; has a more or less pronounced senile aspect. The complaint is that the power to undergo exertion is impaired. There is shortness of breath upon effort. There may be nothing more. The pulse may be feeble and rapid, but there is nothing else about it, nothing characteristic. But on auscultating the heart over a very limited area, at or near the right apex, a tiny 'whiff' can be caught. Only over a small spot; move the stethoscope ever so little and it is apt to be lost; certainly lost if the stethoscope be distinctly moved. Here the presence of a murmur is significant, and unmistakable enough; at least in the majority of cases. But there is also a strong heart very commonly, and a fairly full artery,—*i.e.*, there are the associations of a gouty heart along with the mitral stenosis. Usually the nature of the cause of the murmur is clear and patent, and not a matter for reasonable doubt, as in the case given above. Here is a distinct explanation of the failure of power complained of. Or there may be a more advanced condition attained before the case came under notice, and the patient is confined to bed with or without some positive patch of pulmonary congestion. But there are the significant murmurs, the rational features of mitral disease, linked with the cardiovascular changes of the gouty heart, or granular kidney, as the case may be. The

diagnosis bears on the prognosis and the treatment, especially as to the administration of digitalis. Here there is not an old-standing limited injury to valves, as static and non-progressive as the scar of a burn, limiting the patient's powers, but possessing no tendency to further advance. There is a contracting or sclerosing valvulitis afoot, which tends to steadily go on from bad to worse, because the mitral valve has to bear the strain put upon it by an hypertrophied left ventricle. It is a progressive form of valvulitis. Certainly: but, granting that, at what rate is it progressing? '*Quien sabe!*' as the Spanish girl said when they asked her who was the father of her child' (Kingsley). One would like to know; but how can one get to know? Only, in the language of Oliver Wendell Holmes, by getting 'an arc big enough to determine the size of a circle,'—*i.e.*, getting a period of observation long enough to calculate the rate of progress. This may entail personal observation, or may be fairly made out by the history of the case. In one case a definite date can be made out, since which there has been such a falling-off in the patient as reveals pretty plainly the time when the lesion began to tell upon the organism. In another case there will be no data pointing to any special time when the health was obviously impaired. The patient is not very well, feels weak and unequal to exertion, and is scant of breath; and on examination of the chest the murmur of mitral stenosis is audible. Such a case presented itself to me in June, 1880.

"In some other cases the inactivity of the valvulitis seems about the same; but in others, again, the progress has been steadily, if not rapidly, downwards. In one case there are violent paroxysms of angina pectoris present.

"As to the treatment of these cases, the prevention of the production of uric acid by an appropriate dietary and the use of hepatic stimulants, its solution by antilithic alkalies, are measures about whose adoption there can be no question. To keep the blood-pressure in the arteries as low as possible means lessening the strain on the diseased mitral valves on each ventricular systole; and this is attained by reducing the amount of albuminoid waste in the blood, or dissolving it, and so letting it escape by the water emunctories. So far so good. But how about the administration of digitalis? To increase the vigor of the ventricular contractions means increase of the strain on the valves. Certainly; and therefore grave and valid doubts may honestly be entertained about the wisdom of giving digitalis and iron, in a routine manner, in all such cases of mitral valvulitis. When the heart is fairly vigorous, and there are none of the rational symptoms of mitral mischief present, then, probably, it is well to withhold the digitalis, and to be content with

an appropriate dietary and regimen. But when there are evidences of cardiac failure, then, in all probability, it is well to give the digitalis; albeit in doing so the ventricle does strike harder, and so tax more the mitral valves. Here the ventricle is striking feebly, and the advantage of improving the heart's vigor is not more than counterbalanced by further strain put on the sclerosing valves. In practice each case must be decided by its own indications; and the indications will vary at times in the same case. Nor is it possible to lay down any rules of thumb for the administration of digitalis. The practitioner must weigh carefully the indications for its adoption or the withholding of it in each case. It is not necessary or desirable to give it merely because there is a mitral murmur present; as Rosenstein puts it, 'Digitalis helps the heart to pump the blood out of the veins into the arteries,' and the fulness of the veins and the comparatively empty state of the arteries are the indications for its exhibition; no matter what the murmur, or whether there be a murmur or not. Probably when the rational symptoms of mitral mischief are present it will always relieve them. Whether at times such relief is antagonistic or prejudicial to the ultimate interests of the case, and therefore it is better to withhold digitalis, is a matter for the exercise of private judgment on the part of the medical adviser. This is certain, the indications for digitalis in such mitral stenosis (or insufficiency, too, for that matter) are not so unmistakable as is the case in mitral valvulitis in the young, where a distinct injury, be the same more or less, has been wrought; but where there is no tendency in the valves to further mutilation, the distorting process being over and done with, the said injury crippling the organism and leading to death from the disturbance so wrought in the circulation, here digitalis can scarcely do any harm; but the same cannot be said of the sclerosing valvulitis of the gouty heart."—*Lancet*, August 5, 1882.

A CASE OF HYDROPHOBIA TREATED SUCCESSFULLY WITH ACONITE.—In the *Lancet* for August 12, Mr. Cullimore reports the following:

A boy, aged 10 years, presented himself at the out-patient department of the North-West London Hospital, complaining of pain over the diaphragm and abdomen, with gasping and spasmodic breathing. Some three weeks before he was bitten on the finger by a supposed rabid dog; but, as the wound after cauterization healed well, and as he continued in his usual health, no notice was taken of him till two days before he was taken to the hospital. At this time, however, owing to the wound becoming painful and angry-looking, and symptoms such as restlessness, anxiety, fidgetiness, and sleeplessness having commenced to trouble him, relief was sought. The boy was admitted an in-patient on No-

vember 13, 1881, as, in addition to the symptoms just detailed, there was a peculiar and suspicious wildness of expression, with choreic-like twitches of the face, and a temperature of 101° F. These symptoms, taken in their entirety, led me to so strongly suspect the existence of the melancholic stage of hydrophobia that I fully expected the immediate onset of the fully-developed symptoms of this dreaded disease. The tongue was furred and cracked in the centre, but red at the tip and edges, and the pulse presented nothing abnormal.

The treatment, after placing the patient in a quiet and secluded corner, consisted of a dietary of milk thickened with arrow-root and beef, with the following mixture: one minim of the tincture of aconite, six grains of bromide of potassium, six minims of the tincture of cinchona, to half an ounce of water, to be taken every half-hour for twelve doses, and then three times a day.

January 16: Passed a restless night, attended with occasional delirium till towards morning, when very free perspiration was followed by sleep. The sister in charge states positively that he refused to take fluids during the night, and, on testing him myself, he took water with reluctance, swallowing it, however, with about the same difficulty one might expect in a sharp attack of tonsillitis. So much was I struck with this symptom that I at once expected some severe throat-inflammation; but, on examination, no swelling whatever was found,—nothing, in fact, beyond a slight redness of the parts about the root of the tongue. It is necessary to say that there was not the same difficulty with the beef-tea and arrow-root, to which thickened fluids his drink was restricted, as I did not think it advisable again to try him with water, lest it might aggravate his complaint. 17th: Continues to complain of the epigastric pain and depression, to which is added severe frontal headache, and is much in the same state as yesterday. He takes beef-tea, and has no convulsive paroxysm beyond an occasional twitch. 19th: The patient has lost his wildness of expression, but appears sleepy and drowsy, owing probably to the effect of the medicine. The wound does not heal well. 25th: Has made good progress since last observation; all symptoms clearing up, with the exception of the abdominal sinking, and the state of the wound, which shows little inclination to cicatrize. The aconite to be omitted, and two grains of quinine to be taken three times a day. 27th: The temperature, which for some time was normal, rose to 101° F.; but from this date till December 6, 1882, it gradually declined. Bowels rather constipated throughout. He was then discharged; temperature normal; wound not well cicatrized.

Remarks.—This case presents two problems for solution. First, was it a case of hydrophobia, looking at this affection as the result

of a specific poison, and not, as some few still consider it, a complex neurosis acting on susceptible organizations? Second, looking at it as an example of the incipient stage of specific disease, did the remedies employed prevent its further and fatal development? The history of the bite and its seat, the period of incubation, and the age of the patient (nine out of thirty-six persons attacked, according to Dr. Dolan, being about this age), together with the renewed pain and soreness in the wound, would render a diagnosis of rabies probable. Added to which, the convulsive twitches, the look of alarm, the fidgetiness, the spasmodic breathing, and the reluctance, difficulty, and refusal to take water, though not insurmountable on the day after admission, and of short duration, appear to me to afford evidence sufficient to render certain what the prodromata rendered probable. Moreover, the absence of other causes, though carefully looked for, corroborates this view of the case. It might be alleged that the difficulty with fluids was of too transient a character to be compatible with rabies, and I grant I was very agreeably and extremely surprised by its speedy subsidence. Yet, on the other hand, many fatal cases are recorded where there was no hydrophobia (using the word etymologically) and no difficulty of swallowing fluids, while it should also be borne in mind that fluid dysphagia is a symptom of other affections, and that there is at least one case on record where a patient suffering from laryngitis was violently and fatally treated for rabies. Again, if not rabies, what was the disease? Tetanus it certainly was not, for I have seen so many cases of this disease in India that I can positively say the symptoms are very different. Besides, the onset of traumatic tetanus is rarely delayed beyond the tenth day, and never for three weeks. Against the symptoms being caused by serious apprehension and dread of impending evil are the age of the patient and the increase of temperature of the body. The second question to be answered has reference to the value of the medicine. Now, rabies has two stages, exclusive of the period of incubation. One corresponds to the circulation of the poison in the blood, and is reflected by the malaise, fidgetiness, nervous breathing, changes in the wound, and, in this case at all events, by the pyrexia. The other is due to a later pathological action of the poisoned blood setting up irritation of the medulla and the nuclei of the bulbar nerves, and manifests itself by the fatal spasmodic convulsions of the pharynx and air-passages. Therefore the remedy should be selected with a double object; first, to eliminate the poison from the blood, and, second, to counteract, control, or relieve the congestion of the nerve-centres before referred to. Aconite, as I will now endeavor to show, recommends itself to our consideration as fulfilling both requirements in a manner un-

equalled by any other drug in our possession, or by any that has hitherto been tried as a remedy for hydrophobia. Thus, by the profuse perspiration which it causes, it eliminates, in common with jaborandi, the morbid poison from the blood. It is true, it does not act as a sialagogue, but no superior benefits can be claimed for jaborandi on this account; as in the olden days mercury to salivation was frequently tried, not only with no good result, but often with an unnecessarily disagreeable one. Thus, it is the sweating action of aconite, as it is of jaborandi, that is beneficial in the first stage. We know that many bitten on exposed parts by dogs undeniably mad never catch the disease, and we know also that the poison may remain permanently latent, or latent till called into activity by some exciting cause, generally of a moral nature. Therefore it is easy to go a step further and conceive how in certain mild cases, but when the latent poison has yet become sensible, it may be removed by such remedial agents as the Turkish bath, aconite, and jaborandi. But the rôle of aconite does not end here, while that of jaborandi and the vapor-bath may be said to do so. For this drug, as a vascular depressant, slows the circulation, and thus reduces the interchange between the morbid blood and those tissues on whose irritation depend the fatal manifestations of the disease, "bleeding"—as Dr. Fothergill expresses it, I think—"the blood in its own vessels." And even when this irritation has occurred, aconite promptly given is not only the best drug to control it, but, by its great power of subduing peripheral hyperæsthesia, it will reduce to a minimum the effect of those secondary external causes which often bring about the paroxysms and give them their fatal virulence. To substantiate what I have just said, I cannot do better than quote a few examples from Dr. Ringer's text-book. He says that one drop of tincture of aconite given at bedtime quiets the distressing fidgets of men and women, and causes calm and refreshing sleep. The import of this is obvious when we remember that fidgetiness is one of the commonest and earliest symptoms of rabies. The same author says it soothes the nervous system, and favors sleep by producing free perspiration, which perspiration may continue for days, and that it cuts short the inflammation, not by removing its products, but, by controlling the inflammation, it will prevent their formation. In its action on the nervous system Liégois and Hottot state that it paralyzes first the perceptive centres, afterwards their terminations, and, lastly, the trunks of the sensory nerves. Thus I am justified in saying that if jaborandi is useful in the first stage of hydrophobia, and wourari by its soporific and paralyzing effect in the second, aconite, combining in itself the properties of those agents so highly spoken of, is beneficial in both. It might, of course, be

combined with one or the other, and should also be given as a prophylactic, as indicated by its sedative action, to all who may unfortunately be bitten by animals about whose condition there is the slightest suspicion.

CASE OF EXCISION OF THE TONGUE, FOLLOWED BY TRACHEOTOMY AND SUBSEQUENT GASTROSTOMY—RECOVERY.—Samuel S., aged 40, a cabinet-maker, was admitted to the Manchester Royal Infirmary on January 7, 1882. No feature in his previous or family history could be elicited which had any bearing on the disease for which he sought relief. He stated that nine months previously he first noticed a pricking sensation in the neighborhood of the right tonsil, and that shortly afterwards he experienced pain on the same side of the head, as though he had a combined attack of face- and ear-ache. He had a tooth, which he believed to be the cause of his suffering, drawn, without any benefit. Shortly after this, he discovered a small hard nodule situated on the middle third of the right side of the tongue, corresponding to the situation of the tooth which had been extracted.

On examining the mouth after admission, the right posterior half of the tongue was found infiltrated with a hard mass extending down into the floor of the mouth, and upwards on to the dorsum. The surface of the tongue was not ulcerated, but one side was bound down to the floor of the mouth. The fauces from the soft palate to behind the posterior pillars were deeply excavated, the edges of the sore being hard, ragged, and infiltrated. There was no perceptible glandular enlargement. He complained of lancinating pains in the right external auditory meatus, extending to the right side of his head. A significant depressed cicatrix was noticed over the sternum, and also a scar, with a serpiginous outline, of the size of a florin, in the third intercostal space, suggestive of syphilitic origin,—a suspicion, however, not substantiated by any other evidence. The voice was not affected, and he could swallow without much difficulty. He derived great relief from taking liberal doses of Battey's solution at bedtime. From January 17 to February 16 he was treated as an out-patient, his condition being then regarded as beyond surgical treatment. He was again admitted, however, in consequence of his increased sufferings, and his irresistible pleadings that something might be done to relieve his intolerable condition. On February 18 the entire tongue was excised close to the base with scissors, by the method advocated by Mr. Whitehead. During the operation the lingual arteries spurted for a moment, but were easily secured and twisted. It was remarked that during the administration of chloroform, respiration was interrupted whenever the tongue was drawn towards the left side, and that air entered the lungs more freely when the tongue was dragged well over to the right. This was explained by the right

side of the pharynx being more completely blocked by the growth than the left side, so that when the tongue was pulled to the left it entirely obliterated the remainder of the pharyngeal aperture. This obstruction was so marked that it suggested the possibility of imminent suffocation should any cedema, extension of the morbid growth, or inflammatory thickening follow the operation. Consequently, on the following day, tracheotomy was performed about one inch below the cricoid cartilage. A silver tube was worn for the first few days, after which, on February 25, an india-rubber tube was substituted. The patient expressed himself relieved, slept well the night after the operation, and did not complain of pain the morning following. He was fed entirely for the first four days by enemata, each enema consisting of four ounces of beef-jelly and one egg, administered every four hours. His bed was surrounded by a tracheotomy tent, and steam was kept going night and day until February 27.

March 8. The first stage of the operation of gastrostomy was performed, chloroform being administered through the tracheal tube. The operation consisted in making an oblique incision two and a half inches long, parallel to the left costal margin, commencing opposite to the ninth rib. The various structures were divided down to the peritoneum, which was opened. The stomach was easily brought out of the wound, and attached to the margin of the skin by about a dozen carbolized sutures, the stitches being passed only through the serous and part of the muscular coat of the stomach. This stage of the operation was conducted under strict antiseptic precautions. The patient was again fed by enemata, and no other food was given for five days. Ice, however, was permitted, and freely indulged in by the patient. No gastric inconvenience whatever resulted from the operation, and the wound was left undisturbed for three days. The first time the wound was dressed, the exposed surface of the stomach was found to be covered by a coating of lymph, and the edges of the wound looking healthy. On the fourth day the temperature had risen to 104°, but without the patient complaining of any special inconvenience beyond a troublesome cough, which, together with the elevation of temperature, was evidently caused by a badly-fitting tracheotomy tube, that for some reason had partially collapsed. After this had been changed for a more suitable one, the coughing speedily subsided, and the temperature became normal. When the wound was dressed on the fifth day it looked very clean. Feeding by enemata was continued for twelve days, although small quantities of milk were allowed to be swallowed from the fifth day.

On March 19 the stomach was opened by the introduction, in a direction obliquely upwards, of a trocar about the size of a No. 3

catheter. After withdrawing the trocar and leaving the canula, a No. 2 gum-elastic English catheter was introduced through the canula into the stomach, and the canula was withdrawn, leaving the catheter in the wound. The catheter was retained in the wound, but the gastric fistula was not utilized for feeding purposes until April 3, twenty-six days after the first stage of gastrostomy. After this the patient was fed regularly by a simple siphon, constructed out of about three feet of india-rubber tubing, with a small bone nozzle at one end, and a two-ounce glass funnel inserted into the other. The man very soon acquired sufficient dexterity to introduce the nozzle through the gastric fistula himself, and by elevation of the funnel ample pressure was obtained, and fluid nourishments easily introduced into the stomach. The smallness of the opening into the stomach, and the direction of the fistula, which was purposely made oblique, afforded a valve-like guard to prevent the return of the food after it had been introduced into the stomach,—an inconvenience which not unfrequently occurs in cases of gastrostomy, when a large and direct opening has been made into the stomach.—*British Medical Journal*, July 22, 1882.

SENATOR ON BULBAR PARALYSIS.—Recently Senator has reported a case (see *Archiv f. Psych.*, Bd. xi. p. 713), which shows that hemianæsthesia alternans may be present though the lesion is confined to the medulla oblongata.

A man, aged 56, without losing consciousness, was seized with vertigo. He had the greatest difficulty in swallowing, had a tendency to fall to the left side, had a feeling of cold in the left half of his face, and had an affection of speech which gave one the impression that he was suffering from some obstruction in the pharynx or larynx. There were no symptoms of motor paralysis, except that the tongue was protruded a little to the left, and the left eye appeared somewhat smaller than the right. The temperature was normal, but the pulse beat 120 per minute. Five days later he was seen by Senator. He was then complaining of difficulty in swallowing, of hunger, and of want of breath. Sensibility was almost completely lost in the left half of the face, and in the whole right half of the body, as well as in the right arm and leg. Attempts to swallow either liquids or solids caused hawking and choking, and the substance was returned sometimes through the nostrils. The voice, once powerful and clear, had become a whisper, and there was still the inclination to fall to the left. The patellar tendon reflex was absent on both sides.

For a week there was little change in his condition. Examination with the laryngoscope showed partial paralysis of the vocal cords. The electro-cutaneous sensibility was either lost or very much diminished in the left face

and in the right half of the body. The patient died of putrid bronchitis and broncho-pneumonia, after an illness of fourteen days in all.

The post-mortem revealed a small focus of softening in the outer portion of the left half of the medulla oblongata, and thrombosis of the left vertebral and posterior inferior cerebellar arteries. The greatest length of the focus was attained a little below the middle of the olivary body; here the restiform body and the contiguous portions of Burdach's column and of the lateral column, the ascending root of the fifth nerve, the motor nucleus of the vagus, and a portion of the fibre of the vagus were all implicated. The olivary body, the root of the hypoglossus, and the nuclei of the hypoglossus and vagus were quite intact.

Senator remarks that the difficulty in swallowing, the snuffling speech (due to paralysis of the pharyngeal muscles), the altered voice, the rapid pulse, the hunger, and the feeling of want of breath were all symptoms indicative in this case of lesion of the vagus nerve. The absence of vaso-motor disturbances (with the exception of a slight and transient lividity of the right arm), of polyuria and glycosuria, is worthy of note; as also the fact that there was no marked defect in the knowledge of the position of the right extremities, notwithstanding the loss of ordinary sensibility in them.—*Brain*, April, 1882.

THE SALMON-DISEASE AND ITS LESSONS.—

Prof. Huxley has published some observations on the epidemic known as the salmon-disease, in the Proceedings of the Royal Society. The disease, as is well known, is produced by the growth of a parasitic fungus, and Prof. Huxley looks upon it as a disease of the same order as ringworm in the human subject, as the muscardine of silk-worms, and the potato-disease. This fungus, which belongs to the order *Saprolegnia*, finds a suitable nidus in the skin of that part of the body which is devoid of scales, and generally first attacks the top and sides of the head; thence it may extend widely over the scaly surface also, and deeply into the true skin, causing extensive ulceration and sloughing, so that "one vast open sore may cover the top of the head from the snout to the nape, and may extend over the gill-covers." Several points of general interest have come out in the course of the inquiry: one of these is, that the fungus does not attack the viscera, so that the flesh of the diseased fish is probably not injurious in any way; and it has been said, by those who have made the experiment, that the palate can detect no difference between it and the flesh of healthy fish. This applies probably only to the early stage; for when death—which is produced by exhaustion—is approaching, the flesh no doubt deteriorates in quality. Another interesting point is the manner in which the sloughing of the true skin is produced. The fungus at

first attacks the cuticle, but, after it has taken root there, it sends processes (hyphæ) downwards into the true derma; these processes branch laterally in every direction, and gradually extend deeper and deeper. The tracks of these hyphæ are not accompanied by any obvious inflammation; but they are so closely set that they mechanically interfere with the nutrition of the part, and so lead to sloughing. The third point to which we wish to draw attention is, that the fungus is essentially a saprophyte,—i.e., it ordinarily finds its nidus in dead animal or vegetable tissues, and is only occasionally a parasite upon living organisms. Every stream in the kingdom probably contains indefinite quantities of this and allied fungi, which grow readily on the bodies of dead flies and other insects. Prof. Huxley thus arrives at a conclusion, with regard to this disease, analogous to that to which the student of human pathology is often brought in the case of many infectious diseases,—namely, that, though the parasitic organism may be the determining cause of the train of symptoms which come under observation, there are other, and as yet unknown, circumstances, extrinsic or intrinsic to the infected animal, in the absence of which the parasite cannot develop.—*British Medical Journal*.

THE EPILEPTIC CHANGE AND ITS APPEARANCE AMONG FEEBLE-MINDED CHILDREN.—I. N. Kerlin, in a paper read before the Association of Medical Superintendents of American Institutions for Feeble-Minded Children, at its last meeting, considers some important facts regarding the prognosis and management of a class of peculiarly interesting patients. He concludes:

1. The knowledge gained through careful inquiry proves that early in their lives a very large proportion of feeble-minded or idiotic children present a history either of epilepsy or other neurosis associated with and suggestive always of that disease.

2. The so-called epileptic change is not necessarily accompanied, in the present history of any individual case, with convulsions and insensibility, for these may be transmuted into emotional automatism, eccentricities of behavior or morals, etc., lesser indications of the concealed malady.

3. As a rule, our feeble-minded children manifest their epilepsies in superficial and subjective ways which make them peculiarly admissible of psycho-medical and physiological treatment.

4. By refusing admission for all feeble-minded children who may be epileptic, without discrimination of the essential characteristics and varieties of the disease, we shall surely bar many curable cases of epilepsy whose mental enfeeblement equally requires our skill; also when admitting any feeble-minded child, *without* the open complication of epilepsy as usually described, not unfre-

quently it is discovered that latent epilepsy came with the child: hence the un wisdom, in the first instance, of a course absolutely prescriptive of this unfortunate class of idiocy, and hence, also, the impossibility in the second instance of keeping our institutions entirely free from patients who may exhibit at any time this prominent complication of child-insanity.—*Alienist and Neurologist*.

AN EASY METHOD OF DETECTING THE TUBERCLE-BACILLUS IN SPUTUM.—Professor P. Baumgarten, of Königsberg, publishes, in the *Cbl. f. d. Med. Wissensch.*, the details of a method of discovering the tubercle-bacillus, which he considers simple and handy. It consists in a combination of the potash method proposed by himself with that of Koch and Ehrlich. Dry preparations of phthisical sputa are made and moistened with a very feeble potash wash (1 to 2 drops of a 33-per-cent. potash solution on a small watch-glass of distilled water). The bacilli can then be plainly seen with a power of 400 to 500. The bacilli can then be separated from their surroundings by gentle pressure on the cover-glass. In order to exclude the possibility of some other bacillus of similar form being mistaken for the tubercle-bacillus, the cover-glass is now removed, and kept off long enough to allow the moisture adhering to its under surface to dry, which takes place in a few moments. The cover-glass is then passed two or three times through a gas-flame, after which a drop of diluted ordinary aniline-color solution, not too clear, or some other nucleus-coloring aniline solution (a watery extract from the ordinary aniline ink paper will do very well), is dropped on. Under the microscope all the decomposition bacteria now appear an intense blue, or brown, according to the color-tone of the added coloring solution, while the tubercle-bacilli remain absolutely colorless, and are as plainly to be seen as at first. The whole procedure does not occupy more than ten minutes, so that it seems well adapted for practice.

LUPUS OF LARYNX RESULTING IN FISTULA.—Dr. Bennett presented a case of laryngeal fistula, probably of lupoid origin, to the Dublin Pathological Society. The breathing was so changed that it produced the impression of the patient's having been the subject of tracheotomy. Dr. Bennett described the case (*Dublin Journal of Medical Science* for July) as follows:

"On removing the dressing I found that she had a very large ulcerated surface over the lower part of the thyroid cartilage and directly over the crico-thyroid membrane. She is in fair health, and has no hectic or any other symptom to indicate phthisis or tuberculosis. She is free from night-sweats and permanent elevation of temperature and pulse, and has been suffering only from laryngeal distress. This commenced more than a year ago, and the distress of breathing was accompanied

once or twice with expectoration of blood. After six months a swelling came in the mesial line of the neck. Before Christmas the skin broke, and a fistula formed into the larynx. The appearance of the opening now is very different from what it was when I first saw her. It was then an opening which one would regard as either tubercular or, possibly, a lupoid ulceration at the mesial line. It was extremely unhealthy, and was discharging sanious fluid like that from subacute lupus, with sinuous pouches extending down the mesial line to the sternum and laterally, from which one could express pus. The most important point is the change which has taken place in the appearance of the surface. What I wish to invite opinion upon is the nature of the disease; for I have not met with any similar case previously. The behavior of the surface under treatment has been such that in the interval between a fortnight after Christmas and the present time the ulceration has almost healed, except in one remarkable position. In consequence of the dressings the skin appeared irritated a little at the crease of the neck. Just as the wound began to cicatrize the main fold began to ulcerate, and has now all the appearance of a limited lupoid ulceration. An internal examination of the larynx was made, at first with difficulty, owing to the great amount of frothy mucus constantly present. The epiglottis was covered with red spots. The vocal cords on the left side were deeply ulcerated and appeared almost destroyed, and there was considerable ulceration of the larynx, but of a character not to be distinguished with certainty. In order to relieve respiration it was necessary to keep the fistulous opening closed; and even now, when we take the dressing off, respiration is not so easy as when it is covered. A month ago it was possible to pass a probe in several directions into sinuses which are now healed. A week ago the inferior and largest was still open. The whole of the area was ulcerated when she came in. The actual orifice into the larynx is not diminished in size. As to her general health, tonic treatment was necessary, and it was necessary to diminish the cough she suffered from; and accordingly a sedative cough mixture was given, and local applications were used with the wound, consisting of iodoform, and subsequently of compound tincture of benzoin, which has proved most effectual. The iodoform is rather irritating unless it is in weak solution; the tincture of benzoin and the water have been the principal means of bringing about cicatrization. The principal point connected with the treatment is the extreme rapidity of the cicatrization of these rapidly-forming ulcers. The upper one was very rapid, and yet a few applications of the remedies made it cicatrize with the extraordinary rapidity that is observed in lupus. Yet I was slow to make the diagnosis of lupus, because in the recorded cases of lupus of the

larynx there have been always demonstrations of it elsewhere. This woman has no signs of lupus on any other part of her body. The question is, whether the disease of the larynx is tubercular or lupoid. There is no evidence of any syphilitic taint, nor has the patient had any previous illness of importance.

("Subsequently to the presentation of the patient to the Society she was attacked with erysipelas, which wandered over the face, neck, and upper part of the body, having originated at the yet unhealed fistula. The patient suffered much during the progress from laryngeal distress and dyspnoea, with fever, but finally, on the cessation of the erysipelas, the fistula closed completely, and the voice returned very completely. The curative action of erysipelas, so often observed in lupus, is strongly in favor of the view that this is a case of lupus.")

RUPTURE OF UTERUS DURING PARTURITION, WITH PROTRUSION OF INTESTINES—RECOVERY.—Dr. D. W. Bullock reports the following rare case. A colored woman, thirty-five years of age, in labor with the eighth child, had been in labor for eight hours, when she had a very violent uterine contraction, with severe pain, followed by faintness and free flow of blood. It was a hand and knee presentation; the head of the child and right shoulder and arm escaped through a rent into the peritoneal cavity. Intestines shortly afterwards protruded from the vulva. Stimulants were given freely, the child delivered by the feet, and the placenta removed. The intestines were pushed back and held with the hand until ergot and massage produced uterine contraction, when the rent was closed. Septæmia occurred, but by free use of antiseptic drinks, and carbolic acid internally, which the reporter believes has more power over the condition than quinine, salicylic acid, or any other remedy that he had tried, in six weeks the patient had entirely recovered.—*North Carolina Medical Journal*, July, 1882.

IODOFORM IN PHTHISIS.—Dr. Dreschfeld recently read a paper before the Manchester Medical Society on the internal administration of iodoform in phthisis. Many pathologists having now for some time held the view that tuberculosis was an infectious disease, depending on the presence of micro-organisms (a view which had received strong support by Koch's important researches), and that tuberculosis, phthisis, and scrofulosis were closely-allied if not identical pathological processes, the author was led, guided by the excellent results obtained in the local treatment of scrofulous disease by iodoform, to try the administration of this drug in phthisis. This experience extended over more than six months, and the results so far obtained were satisfactory. The iodoform was given in the form of inhalation, and internally in the form of pills (one grain per dose), mixed with creasote and dextrine.

The best results were obtained in cases of incipient and acute phthisis; in chronic cases the results were less satisfactory; in a few cases of laryngeal phthisis, the local application of iodoform powder to the ulcerated surface of the larynx was followed by immediate relief and clearing of the ulcers,—without, however, producing healing of the ulcers. The conclusions arrived at were these: 1. Iodoform is well borne by the patient, without producing nausea or gastric irritation. 2. Owing to its anæsthetic properties, it relieves the irritation in the throat and the cough, especially in incipient phthisis. 3. In some cases it increased the digestive powers and appetite, and relieved the vomiting. 4. It reduces slightly the temperature in cases of phthisis with raised temperature. 5. In no case have any bad results followed the inhalation of iodoform. 6. Hæmoptysis forms no counter-indication for its administration (in some cases hæmoptysis entirely disappeared on the administration of iodoform). 7. In incipient phthisis iodoform seems to arrest the disease.—*British Medical Journal*.

EXTENSIVE PLEURAL EFFUSION, CAUSING SUDDEN DEATH.—At a recent meeting of the Dublin Pathological Society, Dr. J. W. Nune reported a case of a woman 50 years of age, who came to the hospital with the statement that she had been ill for three weeks with bronchitis. Examination revealed immobility of the right side, and dulness extending up to within an inch and a half of the clavicle. There was much distress, with rapid breathing, and the patient was extremely ill: she was anæmic, and, somewhat cyanosed. The left lung was hyperæmic, the heart slightly displaced to the left. The patient died rather suddenly during the night. The autopsy showed collapse of right lung, the pleura containing eighty ounces of serum; masses of lymph were found upon the pleural surface. The patient died from collateral congestion of the left lung, and a systole of heart due to the great obstruction.

TREATMENT OF HÆMATURIA CAUSED BY BILHARZIA.—Dr. James F. Allen, of Natal, in a communication to the *Lancet*, states that all the streams and rivers of South Africa are more or less infested by this parasite, and it may be found in the rivers of the whole continent, from Egypt to the Cape of Good Hope. The children, being the largest consumers of unfiltered water, are most subject to the disease, which soon reduces them to a cachectic appearance, but rarely causes fatal effects directly. Dr. Allen recommends local treatment, injecting the bladder with an alcoholic solution of santonin (saturated), using half a drachm at a time. Care must be taken to have the bladder empty of urine. The solution must be thrown into the bladder, and be retained as long as the patient can bear it. Subsequently santonin is given internally, in the usual doses, in order to destroy

the parasite in the blood and complete the cure.

METHOD OF TREATING HARD WATER ON A LARGE SCALE.—In the *Medical Times and Gazette* for August 5 is the following description:

"A new method of purifying and softening hard water in bulk has recently been introduced, under the title of the Atkins process, and promises to be of great public service. The new process is a modification of, and an improvement upon, the old Clark method of lowering the hardness of water, which consisted in adding lime to the water to be softened, and allowing the mixture to stand for twenty-four hours in large reservoirs or precipitating-tanks before it could be used. In the Atkins process, however, the precipitating-tanks are dispensed with, and the water can be used as it is softened: the method being continuous, no time is required for the water to stand and settle. The process essentially consists in purifying the water chemically instead of mechanically, as in ordinary filtration. A small jet of lime-water is introduced into a portion of the water to be softened, and the two are blended in a mixer, whence they flow into a softening-tank, into which the bulk of the water is conducted. From this tank the water, with the lime in suspension, flows into Atkins's rotary disk filters, in which the solid particles are all arrested by an ingenious system of cloth-covered disks placed within a tank, and which present a very large area for filtration within a very small compass. The purified and softened water is next conducted from the filters to storage-reservoirs, ready for use. It is claimed for the lime-water used in this way that it not only purifies and softens the water in bulk, but that it causes any clayey matters that may be held in suspension to coagulate, thus facilitating their removal. The system has already been applied successfully to private water-supplies, notably at the residence of the Duke of Richmond at Goodwood, and at that of Mr. W. H. Smith, M.P., at Henley; while the first experiment at public works has been undertaken at the water-works recently opened at Henley-on-Thames. The water there, which is obtained from the chalk, is normally about ten degrees of hardness; but after treatment by the Atkins process the hardness is found to be reduced to nearly four degrees, which means a beautifully soft water. The apparatus in this instance is calculated to soften and purify one hundred thousand gallons of water per working-day of ten hours."

CHOREA DUE TO ASCARIDES.—In the *Vracheb. Vedom.*, 1882, No. 4 (*London Medical Record*, July 15), is the report of Dr. Lesenevich of an interesting case of so-called sympathetic chorea (*chorea e vermicibus*), in a weak, delicate boy, aged 11, with feebly-developed muscles and pale integuments, who, a month ago, began to complain of ab-

dominal pains and occasional startings in the hands and feet. Later, there were gradually developed true choreic movements, which came in paroxysms of two or three minutes' duration about sixty times during the day. At night the boy was quiet. Each paroxysm was ushered in by slight giddiness, and was followed by a deep sigh and feeling of fatigue. The administration of two full doses of santonin, having expelled twelve round ascarides (*ascaris lumbricoides*), at once stopped all choreic symptoms. [Another interesting instance of "worm" neurosis—Dr. Reckett's case of torticollis due to *oxyuris vermicularis*—is to be found in the *London Medical Record*, June, 1880.—*Rep.*]

NICOTINISM.—Dr. Allen McLane Hamilton, in his work on nervous diseases, says that for the person who presents decided nervous symptoms, traceable to tobacco, no better treatment can be suggested than the continuous use of a tonic containing iron, quinine, and strychnine, such, perhaps, as the following: Strychniæ sulphas, gr. j; quiniæ sulphas, 3j; tinct. ferri chloridi, 3v; acidi phosph. dil., syr. limonis, aa 3ij. M. Sig. —One teaspoonful in water thrice daily.—*Weekly Drug News.*

LIGATION OF THE INNOMINATE ARTERY.—Mr. Thompson's case of ligation of the innominate, reported in the *Lancet*, is likely to be successful. He writes, "My case has now reached its thirty-fourth day. On the thirtieth day there was some bleeding through the sinus, which reopened. Bleeding stopped spontaneously, and has not recurred. Patient has still a normal temperature; in morning, pulse 88. Tumor perfectly still, and much reduced in size. Some pulsation apparent in region of the ligatured vessel. No carotid, temporal, or radial pulse."

SYPHILIS CONVEYED BY SKIN-GRAFTING.—In a Paris hospital, a short time since, M. Deubel applied a large number of dermo-epidermic grafts upon an old leg-ulcer, which were followed by rapid and complete cicatrization. A month later ulceration recurred, and six weeks later syphilitic roseola appeared. The patient's son, who furnished the grafts, now applied for treatment for mucous patches around the anus, and stated that he had acquired a hard chancre eighteen months before, for which he had not been under treatment. The *Lancet*, in commenting upon this case, declares that the safest rule to follow is to make the patient furnish his own grafts.

HIP-JOINT AMPUTATIONS.—During the past month, three cases of amputation at the right hip-joint were performed in England, with the aid of Mr. Davy's lever for controlling hemorrhage. A case where Mr. McLaren, of Carlisle, operated, lost two ounces of blood; a second patient, under Mr. Cowell's care, at the Westminster Hospital, lost three ounces; and the third case, where Mr. Paul Swain, of Plymouth, performed amputation with the as-

sistance of Dr. Bampton, lost but one ounce and a half. All these patients are progressing favorably.—*British Medical Journal.*

SCHIZOMYCETES IN ACUTE FIBRINOUS PNEUMONIA.—The view of Klebs, Eberth, and Koch with regard to the presence of schizomycetes in acute pneumonia is endorsed by C. Friedländer (*Virchow's Archiv*, Bd. xxxvii.), whose reports eight consecutive cases in which microorganisms were detected in the expectoration and in sections of pulmonary tissue. They were readily found in the fibrinous expectoration, but were especially abundant in the grayish-red hepatization, much scarcer in the gray and grayish-yellow portions of the lung. The micrococci were elliptical in shape, almost an "μ" long, and a third less broad. They were usually in pairs (*diplococcus*), but sometimes formed chains.—*Centralblatt für Chirurgie*, August 12.

NERVE-STRETCHING—URETER-STRETCHING.—The *London Medical Record* quotes from the *Deutsch Med. Wochenschrift* a letter which gives a "fling" at the nerve-stretchers. The writer speaks of ureter-stretching for granular kidney. He has also stretched the hepatic duct for cirrhosis, and intends to stretch not only the pneumogastric nerves, but also the bronchi for chronic contraction of the lung. He also asks, "Might not general paralysis of the insane be cured by simple extraction of the teeth and stretching of the respective twigs of the dental nerves? I will try it. A new era is dawning! Here is, indeed, an art, and, while we live, let us stretch!"

TYPHOID FEVER TREATED BY COPPER.—Burq, having observed immunity from cholera among copper-workers, recommended the use of copper in the treatment of enteric fever. Hæhne (*Memorabilien*, Jahrg. xxvi. Heft 8) has carried his suggestion into practice, and has found that copper is a specific and valuable remedy in many cases of typhus. He administered 1.5 grammes of the tincture of the acetate of copper (*German Pharmacopæia*) in the course of two days, giving a portion of it every two hours. Reduction of temperature to the extent of from two degrees of Fahrenheit followed in from one to two days. Vomiting or diarrhoea does not contra-indicate its employment, and the copper does not appear to injure the stomach. Its mode of action is doubtful, Hæhne suggesting that it may act as an antiseptic.—*London Medical Record.*

COMPOSITION OF ST. JACOB'S OIL.—Dr. Squibb, in his *Ephemeris* (No. 4), says that St. Jacob's Oil appears to be a feeble and badly-made aconite liniment, and that it consists mainly of water, ether, alcohol, turpentine, and a small proportion of aconite, with red coloring-matter.

CODEIA IN DIABETES.—The use of codeia in diabetes, first recommended by Pavy, seems worthy of more extended use than it has at-

tained. In the *British Medical Journal*, June 24, several cases are reported by Dr. R. S. Smith, in which the results were very satisfactory, all exhibiting marked improvement while taking the remedy.

MISCELLANY.

PROSTITUTION AS OBSERVED IN CANTON, CHINA.—At the City Foundling-House in Canton, female infants (generally illegitimate) are sold for seven hundred cash (seventy-five cents) to any one who states that he wishes to bring the child up as a servant and in a respectable manner. This trade is carried on without the knowledge of the government directly, but merely to fill the pockets of those in charge of the institution. If a mother is too poor to support her child, and it is a female (males are never sold, as they only can worship at the tomb of their departed ancestors, and every Chinese parent wishes to leave behind him a son for this purpose), she takes it to the Foundling-House, and simply leaves it there. Owners of houses of prostitution come and select the infants which give promise of greatest beauty or best health, and buy them. They have them cared for on boats made for the purpose, so as to keep them apart from the world at large. They are well fed, and most carefully guarded from exposure to the sun, so as to secure as white a complexion as possible. Here they are trained for their future work. At the age of twelve they are put in the society of women considered accomplished in the business, and at fifteen they begin the life which is soon to become a misery. Now, should one of these girls be seen by a rich Chinaman who wishes to add another concubine to his family, he may buy her and take her to his home, where, if she be a favorite, she is sure of kind treatment; and any children she may have rank in every way with those by his first or real wife, even to inheriting property. Those of the prostitutes who are not so fortunate are treated kindly or otherwise in proportion to the amount of money they make for their master.—F. CARROW, M.D.: *Maryland Medical Journal*.

RAGS AND INFECTIOUS DISEASES.—In a report to the Local Government Board (*British Medical Journal*, July 8), Dr. Parsons discusses in much detail, and with considerable breadth of view, the precautions that are possible or desirable to prevent the spread of disease by rags; and on a general consideration of all the complex circumstances of the case, he arrives at the following conclusions: 1. Cases of infection by means of rags do occasionally occur, although, comparatively speaking, not very frequently. 2. Smallpox is the disease most likely to be thus conveyed. 3. All rag-workers should be vaccinated and revaccinated. 4. Dust should be avoided.

The preliminary dusting of the rags before sorting is to be recommended, but the dust should not be allowed to contaminate the air of the workroom. 5. Certain measures of disinfection are available, among which, exposure to air, fumigation with sulphurous acid, and exposure to hot air or high-pressure steam may be mentioned, each of which has its advantages and drawbacks under certain circumstances. 6. In the absence of means by which it may be known whether or not rags have been infected, the cases in which disinfection would appear specially desirable are—(a) rags from places where epidemics are known to exist; (b) rags in a filthy state; and perhaps (c) foreign rags, especially if coming within the two previous categories. 7. Under existing circumstances it is not advisable that any obligation as to disinfecting rags, other than that already imposed by Section 26 of the Public Health Act, 1875, should be imposed upon persons engaged in the rag-trade.

WATERMELON SUGAR.—Mr. W. W. Seay, of Rome, Georgia, is experimenting with watermelons for the purpose of extracting sugar. His experiments so far, in a small way, induce him to believe that a fair lot of melons contain an average of seven per cent. of saccharine matter, or pure sugar. He estimates that on one acre of good land, suited to their growth, 34,500 pounds of melons would grow, and these would produce, at seven per cent. of saccharine matter, 2415 pounds of sugar, and worth, at ten cents, \$241.50. This sounds very nice, but the results of a few practical experiments would be more satisfactory.—*Weekly Drug News*.

NOTE ON EXCESSIVE SWEATING OF THE FEET.—The patient is directed to immerse his feet morning and night, for about ten minutes, in warm water at 115° to 120° F. in which a teaspoonful (3i) of powdered commercial soda (impure carbonate of soda) is dissolved. The feet are then thoroughly dried, after which they are painted all over with a coating of compound tincture of benzoin, which acts as an antiseptic astringent and by its mechanical presence on the skin. This treatment is continued for about ten days, after which it is practised once daily, or every other day, as the necessities of the case may require.—E. MEIERHOF, M.D.: *Maryland Medical Journal*.

A PHENOMENAL CANARY.—There is at present in the possession of Dr. J. McGrigor Croft a canary-bird which, besides giving utterance to delicious warblings, is also able to "talk" with a clearness and precision simply marvellous. The canary does veritably *speak*, and enunciates a number of sentences which are clearly imitative of the voice of the lady who has had care of it since its early youth. The effect, indeed, produced by the clear, sweetly-uttered sentences pronounced by the bird is almost weird at first; but the feeling of wonder thus created quickly

gives rise to a sensation of exquisite pleasure, which is deepened as the little creature suddenly at the end of a sentence rushes off into an ecstasy of song.—*Dublin Press and Gazette*.

ASTRAGALUS MOLLISSIMUS.—Among the plants destructive to cattle in the West is the *Astragalus mollissimus*, whose physiological action has recently been studied by Dr. Isaac Ott, of Easton, Pa. He summarizes it as follows:

"1. It decreases the irritability of the motor nerves.

"2. Greatly affects the sensory ganglia of the central nervous system, preventing them from readily receiving impressions.

"3. Has a spinal tetanic action.

"4. Kills mainly by arrest of the heart.

"5. Increases the salivary secretion.

"6. Has a stupefying action on the brain.

"7. Reduces the cardiac force and frequency.

"8. Temporarily increases arterial tension, but finally decreases it.

"9. Greatly dilates the pupil."—*New Remedies*, August, 1882.

THE RELATIONS OF ASTHMA AND MUCOUS POLYPI OF THE NOSE.—Dr. Joal terminates a paper in the *Archives Générales* for May with the following conclusions: 1. Mucous nasal polypi sometimes give rise to dyspnoea of an asthmatic nature. 2. This symptomatic asthma is principally observed in arthritic subjects. 3. It is most frequently produced by a reflex action consequent upon the irritation of the nasal mucous membrane. 4. The point of departure of this action may be the sensitive filaments of the pneumogastric which line the pharyngeal or bronchial mucous membranes. 5. The asthma may be developed by the fact of catarrhal and emphysematous lesions attributable to the nasal polypi. 6. The asthmatic symptoms are either amended or disappear after the removal of the polypi. 7. The nervous disturbance induced by the polypi consists sometimes of spasmodic sneezing coming on in paroxysms.

THE EFFECT OF ALCOHOLIC DRINKS ON DIGESTION.—From a series of experiments with artificial digestive fluids, Büchner (*Deutsche Archiv für Klin. Med.*) finds that beer undiluted stops digestion, and if diluted retards the process; wines act in a similar manner; both beer and wine hinder digestion, even when in small quantities, and this action is increased if there is coexisting disorder of the stomach. He concludes that these agents should be given with caution or entirely withheld in cases of gastric catarrh.

AN ADVERTISING DOCTRESS of this city—Mrs. Rodgers—has been arrested for malpractice, and the testimony appears direct enough to secure conviction. It is so hard to trap these creatures that they should be promptly convicted when caught, as a warning to others.

DR. MORELL MACKENZIE, of London, now in Canada, will make an early visit to this city, and preparations are being made to give him a reception.

LECTURES of the Preliminary Course began at both the University of Pennsylvania and Jefferson College on the 11th instant.

LANGENBECK'S SUCCESSOR.—Professor Von Bergmann, of Würzburg, has accepted the position at Berlin just vacated by Von Langenbeck on account of failing health.

SIR JOHN LUBBOCK (*Journal of the Linnean Society*) concludes, from a prolonged and careful series of experiments, that bees distinguish colors, and that they have a decided preference for blue.

EXPLOSION OF CARBON BISULPHIDE.—A fatal explosion recently occurred at Bradford, England, due to the escape of carbon bisulphide into the public sewer. It appears to have come from a grease-works where it had been used in the extraction of oil from seeds.

DR. CHARLES SMART has been elected secretary of the National Board of Health, *vice* Dr. Turner, resigned.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM SEPTEMBER 2 TO SEPTEMBER 16, 1882.

WRIGHT, J. P., SURGEON.—Granted leave of absence for one month, with permission to apply for an extension of one month on surgeon's certificate of disability. S. O. 181, Department of the Missouri, September 8, 1882.

MADDOX, T. J. C., ASSISTANT-SURGEON.—To proceed from Fort Clark, Texas, via San Antonio and Laredo, to Fort Brown, Texas, for duty. S. O. 96, Department of Texas, September 8, 1882.

WAKEMAN, WILLIAM J., ASSISTANT-SURGEON.—Assigned to duty at Fort Douglas, Utah. S. O. 91, Department of the Platte, September 1, 1882.

COMEGYS, E. T., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort Supply, Ind. Ter. S. O. 174, Department of the Missouri, August 30, 1882.

HUBBARD, VAN BUREN, MAJOR AND SURGEON.—Orders to Fort Wingate, N. Mex., revoked. To report to Commanding Officer, District of New Mexico, for duty at Fort Stanton, N. Mex. S. O. 174, Headquarters of the Department of the Missouri, August 30, 1882.

TAYLOR, MORSE K., ASSISTANT-SURGEON.—Relieved from duty as attending surgeon at Detroit, Mich. S. O. 157, Department of the East, September 9, 1882.

CORSON, JOSEPH K., CAPTAIN AND ASSISTANT-SURGEON.—Granted two months' leave of absence. S. O. 210, A. G. O., September 9, 1882.

SHUFELDT, ROBERT W., CAPTAIN AND ASSISTANT-SURGEON.—Now awaiting orders, to report by letter to the Commanding General, Department of the South, for assignment to duty. S. O. 209, A. G. O., September 8, 1882.

BACHE, DALLAS, SURGEON.—Informed by Adjutant-General of acceptance of his certificate of disability of August 31, 1882. On sick leave from September 1 to September 30, 1882.

WRIGHT, J. P., SURGEON.—Granted one month's leave of absence, with permission to apply for extension of one month on surgeon's certificate of disability. S. O. 181, Department of the Missouri, September 8, 1882.

HORTON, S. M., MAJOR AND SURGEON.—Granted one month's leave of absence on surgeon's certificate of disability. S. O. 96, Department of the Platte, September 11, 1882.

INDEX.

Absinthe, 259.
 Acne rosacea, 874.
 Aconite, a case of hydrophobia treated successfully with, 883.
 Aconite and aconitia, 583.
 Aconitia, death from taking, 724.
 Adeno-carcinoma of breast, 57.
 Adirondacks as a health-resort, 117.
 Administration of iodide and bromide in alkaline water, 94.
 Air, apparatus for collecting microscopical particles floating in the, 871.
 as a hypnotic, 32.
 Albumen in urine, new test for, 91.
 Alcohol, influence of, on digestion, 310, 892.
 topical applications of, 459, 872.
 Allis, Oscar H., can Pott's disease of the spine, occurring in childhood, be cured without subsequent deformity? 273.
 what is the best cure in hip-joint disease? 451.
 Alopecia of the eyebrow, 63.
 Alum in bread, 259.
 Aluminum nitrate in pruritus vulvæ, 30.
 American Laryngological Association, 675.
 American Medical Association, 601.
 Amputation at hip-joint, 890.
 knee-joint, 578.
 periosteal preservation in, 543.
 Amyl nitrite in strychnia-poisoning, 546.
 Anders, J. M., relation of forests to health-resorts, 549.
 Aneurism of femoral artery, 172.
 cured by pressure, 186.
 of orbit cured by ligation of common carotid artery, 367.
 traumatic, of posterior tibial artery, 187.
 Angina pectoris, heart with atheromatous coronary arteries, 429.
 terminating in sphacelus, 51.
 Anthelmintic, dolarina as an, 440.
 Anthrax, inoculation against, 403.
 Antiseptic dressing, naphthaline as an, 876.
 formula for chloralum, 125.
 resorcin as, 79.
 spray, two substitutes for, 311.
 Anti-vaccination, 312.
 Aphasia, 313.
 from brain-tumor, 648.
 Arm, injury to, in a child, 509.
 Arsenical injections into spleen for hypertrophy, 16.
 Arteries, ligation of vertebral, in epilepsy, 510.
 Arteritis, acute idiopathic, death, 826.
 Artery, double femoral, 170.
 Arthritis, blennorrhagic, 49.
 Ascariides, chorea due to, 889.
 Asch, Morris J., on lupus of the larynx, 63.
 Ashhurst, John, Jr., clinical history of chancre and chancreoid, 405.
 clinical lectures by, 46, 178, 307.
 Assault upon Dr. Gray, 466.
 Asthma, bronchitic, alternated with convulsive symptoms, 114.
 case of renal, 740.
 fuming inhalations in, 29.
 in a child of two years, 321.
 relations of, to mucous polypi, 892.

Astragalus mollissimus, 892.
 Atkins, Francis H., antiseptic use of borax, 416.
 Atlee, W. F., fungosities of bladder, etc., 453.
 Atropia-poisoning, eserine in, 124.
 Aural vertigo, 585.
 Bacillus lepræ, 620.
 of tubercle, 212.
 typhosus Klebsii, 152.
 Baer, B. F., monocyst, probably of ovary, 293.
 Baptiste-Jacob, 459.
 Barton, J. M., cancerous degeneration of fibro-myomata of uterus, with metastatic growth in the brain, 575.
 case of uræmia following the introduction of a split bougie, 821.
 Basedow's disease, 65.
 Bed-sores, water-bed for, 188.
 Beer-drinking, 192.
 Belladonna, inherited idiosyncrasy to, 72.
 poisoning, case of, treated successfully by morphia hypodermically, 492.
 Benzoates in dysentery, 507.
 Betancourt, Pedro A., inherited idiosyncrasy to belladonna, 71.
 Beware, she's fooling thee, 603.
 Bigelow, Henry J., on lithotripsy, 617.
 Bilharzia, hæmaturia caused by, 889.
 Billings, Dr., on original communications, 31.
 Billroth, lecture on sarcomatous tumor, 297.
 Birth-marks, "C. O. D.," 128.
 Blackwell, E. T., adhesive straps in fracture of patella, 869.
 Blackwood, W. R. D., the application of static electricity to medicine, 36.
 double hernia, 554.
 nitrate of silver in dysmenorrhœa, 517.
 static electricity as a galactagogue, 103.
 Bladder, calcification of, 572.
 exstrophy of, 577.
 foreign bodies in, 30.
 fungosities of, 453.
 spasm of, death from uræmia, 499.
 Blake, John G., treatment of acute lung affections, 503.
 Blood, the circulation of, 796.
 Blood-corpuscles, origin of, 703.
 Bobo, C. D., gunshot wound of the head, 171.
 Boenning, H. C., a case of prurigo, 519.
 reply to criticism, 656.
 Boldo, physiological effects of, 656.
 Bone, semilunar, extension of, 301.
 restitution of separated pieces, 141.
 transplantation of, 49.
 Bones, transplantation of medulla of, 113.
 BOOK NOTICES AND REVIEWS:
 Marriage and Parentage, and the Sanitary and Physiological Laws for the Production of Children of Finer Health and Greater Ability, 724.

BOOK NOTICES—Continued.

Adam, Wm., Pathology and Treatment of Lateral and other Forms of Curvature of the Spine, 653.
 Anderson, Elizabeth G., Samuel C. Bovey, A. Jacobi, J. Forsyth Meigs, and J. Lewis Smith, The Sanitary Care of Children and their Diseases, 220.
 Bramwell, Byrom, Diseases of the Spinal Cord, 880.
 Brown, W. Symington, A Clinical Handbook of Diseases of Women, 722.
 Bruen, E. T., Pocket-Book of Physical Diagnosis, 294.
 Buckley, C. F., Cerebral Hyperæmia: Does it Exist? 881.
 Bulkeley, L. Duncan, Eczema and its Management, 189.
 Manual of Diseases of the Skin, 654.
 Butler, John, Electricity in Surgery, 761.
 Championnière, Just Lucas, Antiseptic Surgery, 123.
 Charcot, J. M., Lectures on Pathological Diseases of the Nervous System, Diseases of Spinal Cord, 189.
 Clowes, Frank, Practical and Analytical Chemistry, 189.
 Coles, Walter, The Nurse and Mother, 328.
 Cook, Marc, The Wilderness Cure, 58.
 Corning, I. Leonard, Carotid Compression and Brain-Rest, 881.
 Dalton, John C., The Experimental Method in Medical Science, 856.
 Dragendorff, G., Untersuchung von Blutspuren (Examination of Blood-Stains), 329.
 Dwight, Thomas, Frozen Sections of a Child, 222.
 Foster, M., A Text-Book of Physiology, 157.
 Gay, John, On Hemorrhoidal Disorder, 545.
 Glisan, Rodney, Text-Book of Modern Midwifery, 94.
 Gowers, W. R., Epilepsy and other Chronic Convulsive Diseases, 365.
 Griesinger, W., Mental Pathology and Therapeutics, 881.
 Harris, Vincent, M.D., and D'Arcy Power, Manual for the Physiological Laboratory, 58.
 Harrison, Reginald, Prevention of Stricture and of Prostatic Obstruction, 545.
 Harthorne, Henry, Essentials of the Principles of the Practice of Medicine, 157.
 Heath, Christopher, Practical Anatomy, 157.
 Henry, Frederick P., Observations with the Hæmacytometer upon the Globular Composition of the Blood and Milk, 122.
 Henry, M. H., Treatment of Varicocèle, 157.
 Holden, Luther, and James Sleuter, Landmarks, Medical and Surgical, 59.

BOOK NOTICES—Continued.

- Holmes, T. A., *A System of Surgery, Theoretical and Practical*, 122.
- Howard, Henry, *Philosophy of Insanity*, 881.
- Keetley, C. B., *An Index of Surgery*, etc., 510, 761.
- Lange, Victor, *Sur l'Emploi de la Méthode galvanocautistique dans le Nez et le Pharynx*, 58.
- Lyman, Henry M., *Artificial Anesthesia and Anesthetics*, 156.
- Martin, Prof. H. Newell, M.D., and W. A. Moale, M.D., *A Hand-Book of Vertebrate Dissection. Part I.—How to Dissect a Chelonian*, 58.
- Mauthner, Ludwig, *The Sympathetic Diseases of the Eye*, 474.
- Morton, T. Sanford, *Refraction of the Eye, its Diagnosis*, etc., 294.
- Noyes, Henry D., *Treatise on Diseases of the Eye*, 654.
- Olliver, Geo., *Harrogate Waters, Data, Chemical and Therapeutical*, 59.
- Prudden, T. Mitchell, *A Manual of Practical Normal Histology*, 156.
- Ranney, Ambrose L., *The Applied Anatomy of the Nervous System*, 58.
- Risley, S. D., *Weak Eyes in Public Schools*, 366.
- Rockwell, A. D., *Lectures on Electricity (Dynamic and Franklinic) in its Relations to Medicine and Surgery*, 438.
- Rumbold, Thomas F., *Therapeutic and Operative Measures for Chronic Catarrhal Inflammation of the Nose, Throat, and Ears, Part II.*, 156.
- Sansom, Arthur Ernest, M.D., *Manual of the Physical Diagnosis of Diseases of the Heart*, 24.
- Smith, J. Lewis, *Treatise on Diseases of Infancy and Childhood*, 157.
- Stein, Alex. W., *Tumors of the Bladder*, 653.
- Transactions of the American Gynecological Society, Vol. V., Year 1880*, 93.
- Tyndale, J. Hilgard, *Home and Climatic Treatment of Pulmonary Consumption*, etc., 723.
- Von Troeltsch, *Diseases of the Ear in Children*, 823.
- Warren, Joseph H., *A Practical Treatise on Hernia*, 366.
- Williams, H. W., *Diagnosis and Treatment of Diseases of the Eye*, 365.
- Witthaus, R. A., *General Medical Chemistry for the Use of Practitioners in Medicine*, 155.
- Boric acid in ear disease, 567.
- poisoning, 176, 420.
- pomade, 876.
- Borax, antiseptic use of, 416.
- Bouchut on papaya and papalina, 29.
- Brachial artery, method of compressing, 114.
- nerves, gunshot wound of, 174.
- Brain, an obscure form of syphilitic affection of, 486.
- cases of disease of, 648.
- clot in, 350.
- concussion, recovery from severe, 305.
- of negro murderer, 575.
- recovery after gunshot wound of, 421.
- sarcoma of, 690.
- Brain-weight, male and female, 116.
- Braun, Prof., clinical lecture by, 639.
- Bread, alum in, 259.
- Bread Reform League of England, 160.
- Breasts, inflamed, potassium bromide in, 123.
- Bridges, Prof., 390.
- Bright's disease, discussion on, 580.
- examination of tube-casts in, 557.
- histology of, 378.
- significance of urinary sediments in, 559.
- Bromidia, formula for, 223.
- Bronchial catarrh in children, 5.
- glands, disease of, 295.
- Brose, Louis D., *Bright's disease*, 378.
- Bruen, E. T., on therapeutic dosage, etc., 745.
- Bryant, Joseph D., periosteal preservation in amputations of the leg, 543.
- Bryant, Thomas, excision of stricture of descending colon, 546.
- Bunsen, Prof., honors to, 192.
- Burnett, Charles H., aural vertigo, 585.
- scented iodoform, 302.
- Burns, treatment of, 145.
- Bursitis, traumatic, 47.
- Byrd, Harvey L., *cactus grandiflora* in subacute and chronic rheumatism, 811.
- on diabetes, 633.
- Cactus grandiflora* in subacute and chronic rheumatism, 811.
- Cæsarean section by Porro's method, 710.
- lecture on, 513.
- Caffeine in cardiac dropsy, 344.
- Calculi, intestinal, 327.
- urinary, 188.
- Calculus, foreign bodies in bladder, 30.
- Canary, a phenomenal, 891.
- Cancer, abdominal, 759.
- of liver, 56.
- of liver and rupture of heart, 649.
- of lower end of œsophagus and of mediastinum, the latter involving the heart and great vessels, 44.
- of mammary gland of dog, 817.
- of pancreas, etc., 322.
- of uterus, pregnancy in, 470.
- Cancerous degeneration of fibro-myomata of uterus, etc., 575.
- Canton, prostitution in, 891.
- Carbolic powder, 95.
- Carbolic sulphide, explosion of, 892.
- Carbuncle, improved method of treating, 367.
- Carcinoma of axillary glands, 256.
- of bladder and uterus, 612.
- of neck of bronchial origin, 421.
- sarcomatous, of mammary gland, 257.
- scirrhus, of mammary gland, 574.
- Cardiac disease, two cases of unusual, 429.
- Caryatides from cadavers, 259.
- Case of George Wood, tried in Philadelphia for vitriol-throwing, 82.
- Cells containing red blood-corpuscles, 438.
- Cerebral disease, two cases of, 135.
- Cerebro-spinal meningitis, 599.
- Cereus Bonplandii, 190.
- Chamberlain, W. M., rubber tubing, 542.
- Chancre and chancroid, 405.
- excision of, 145.
- the indelible vestige of, 13.
- Chancroid, pyrogallic acid in, 13.
- Chaulmoogra oil in leprosy, 860.
- Chewing-gum, 476.
- Chicago's disgrace, 19.
- Child of modern wants and modern means, 177.
- Children, nocturnal terrors in, 143.
- China, importation of opium into, 476, 511.
- opium in, 295.
- prostitution in Canton, 891.
- Chinolin, 425.
- as a substitute for quinine, 393.
- Chloralum, formula for, 125.
- Chloroform, death from, 796, 872.
- Chologogue, toluol-diamine, a new, 710.
- Cholera infantum, resorcin in, 176.
- morbus, paralysis following, 468.
- Chondroma of testis, 539.
- Chordee, nitrite of amyl for, 155.
- Chorea due to ascarides, 889.
- Choreic nervous disease, etc., 631.
- Chrysarobin, 175, 209.
- Chrysophanic acid, internal use of, 792.
- Cinchona, a new variety of, 841.
- Cirrhosis of liver, 612, 784.
- Clavicle, fracture of internal extremity of, 388.
- Claxton, Charles, virulence of normal human saliva, 627.
- Coburn, G. Hayward, has each of the zymotic diseases a special poison? 4.
- Coccyx removed by surgical engine, 303.
- Codeia in diabetes, 127, 890.
- Cotition in pregnancy, 126.
- Cold fire, 32.
- Colon, rupture of, 819.
- Color-blindness, 212, 282.
- in Incians, 346.
- Commencement exercises, 461.
- Congenital cyanosis, 797.
- Consultations with homœopaths, 18, 352.
- Consumption, rational treatment of pulmonary, 693.
- the influences which predispose to pulmonary, 277.
- treatment of, 717.
- Contributions to the toxicology of cardiac depressants: aconite, 105.
- Contusion, diagnosis of cerebral, 458.
- Convallarine, 841.
- Copper, ammonio-sulphate of, in neurægia, 17.
- in typhoid fever, 890.
- Cornea, sphacelus of, 490.
- Corneal repair, interesting case of, 738.
- Correction of clinical thermometers at Yale College, 160.
- CORRESPONDENCE:
- Boston letter, 609.
- London letter, 20, 85, 179, 253, 316, 393, 463, 555, 606, 676, 780, 852.
- St. Paul letter, 644.
- Croup treated by passing catheters into trachea through the mouth, 474.
- Cyst, congenital, of neck, 541.
- Cysts, treatment of, 145.
- Danish prize rewards for protection of animals, 223.
- Darwinism in medicine, 354.
- Deaf mutes taught to speak, 296.
- Death from chloroform, 711, 872.
- from fright or syncope, 511.
- from pleural effusion, 889.
- from rupture of stomach, 778.
- from ruptured ovarian cyst, 325.
- from swallowing a coin, 224.
- Death-rates in cities, 332.
- De Blois, Thos. Amory, a new laryngeal forceps, 839.
- Deecke, Theo., observations on acute intestinal catarrh, 861.
- De Lannoy, C. W., apparatus for collecting microscopical particles floating in the air, 871.
- lumbar abscess following typhoid ulceration and perforation of the bowel, 707.
- Delirium tremens, 621.
- Delivery obstructed by ascites in fœtus, 331.
- Dermoid ovarian cyst, 650.
- Diabetes, codeia in, 127, 890.
- insipidus and diabetes mellitus, 363, 633.
- insipidus cured by faradism, 440.
- mellitus, 193.
- mellitus after purpura, 15.
- Diagnostic value of electricity in cases of muscular paralysis, 712.
- Diet of infants, 372.
- Digestion, influence of alcohol on, 310, 892.
- Diphtheria, continuous spray in, 673.
- in calves communicated to pigs, 583.
- new researches on, 497.
- traumatic, of orbit, 737.
- treatment of, by mercury cyanide, 145.
- Diphtheritic contagion, on the nature of, 33.
- membrane, a new solvent for, 160.

- Discussion on etiology of tumors, 215.
Disinfectant, a new, 32.
Dislocation backward of heads of both tibiae, etc., 471.
of femur reduced by manipulation, 778.
Dolan, Dr., effects of some drugs on lactation, 26, 61.
Dolarina as an anthelmintic, 440.
Dome-trocar catheter, 351.
Dosage, therapeutic, 745.
Dropsy, caffeine in cardiac, 344.
Drug-store, explosion in a, 512.
Duhring, Louis A., clinical lectures by, 7, 347, 874.
Dujardin-Beaumetz on forced alimentation in phthisis, 309.
Dulles, Chas. W., typhoid fever at three years of age, 65.
Dumire, Geo. B., proctitis and peritonitis from rhus-poisoning of buttocks, 636.
Duodenum, fibrous stricture of, 323.
Dupuytren's contraction of the fingers, 370.
Dysentery, nitrate of silver injection in, 584.
treatment by the benzoates, 507.
Dysmenorrhœa and sterility, 331.
nitrate of silver in, 517.
Dyspepsia, opium treatment, 125.
Earache cured by inflation, 792.
Ear-disease, boracic acid in, 567.
discussion on, 288.
treatment of, 836.
Ear instruments, improved, 708.
Echchondroma of larynx, 540.
Eclampsia, puerperal, 814.
veratrum viride in puerperal, 841.
Ecthyma, 875.
Ectropion cured by transplantation of skin from the arm, 367.
treated by transplantation, 547.
Eczema erythematous, 7.
rubrum infantile, 875.
vesicular, diffused, 875.
Editing of English medical works, 179.
Education in its relations to crime, 813.
Electricity, static, as therapeutic agent, 686.
static, its medical application, 36.
Elephantiasis, amputation of scrotum for, 824.
supposed case of, 468.
Elsberg, L., election of, 192.
six maxims regarding the treatment of foreign bodies in the air-passages, 729.
Emphysema of lung, abstract of clinical lecture on, 129.
Endometritis, treatment of, 222.
Engel, Hugo, an obscure form of syphilitic infection of the brain, 486.
Basedow's disease, 65.
Engineers, defective hearing in locomotive, 266.
Epilepsy, importance of early recognition of, 59.
ligature of vertebral arteries in, 510, 726.
Epileptic change and its appearance among feeble-minded children, 887.
Episcleritis, 648.
Epispadias in the female, 673.
Epithelioma of leg, 652.
of lower lip, 142.
of nose, 349.
treated by the juice of oxalis acetosella, 159.
Equino-varus, congenital, 219.
double, from infantile palsy, 219.
Ergot in diseases of the skin, 873.
in splenitis, 475.
Ergotin, fibroid tumors of uterus cured by hypodermic injections of, 304.
Erysipelas, collodion in, 145.
Eschridge, J. T., cancer of the lower end of the œsophagus and of the mediastinum, the latter involving the heart and the great vessels, 44.
Eschridge, J. T., case of complicated heart disease, 613.
congenital cyanosis, 797.
pre-physical sign stage of phthisis pulmonalis, 163.
Ether vs. chloroform, 878.
Ethical experiments of New York State Society, 389.
Etiology of tuberculosis, Koch, 725.
Eucalyptus globulus, two cases of amputation treated by, 403.
European obstetrical teaching, 128.
Examinations for the position of resident physicians in our hospitals, 534.
Excision of stricture of descending colon, 546.
of tongue, 885.
Exophthalmic goitre, pathognomonic sign of, 51.
Expert fees, 332.
Extirpation of cancerous uterus, 827.
of larynx, base of tongue, velum palati, and tonsils, 17.
Extra-uterine foetation, 292.
Eye-diseases, accidents from the use of jaborandi and pilocarpine in, 741.
Fallopian tubes, patulous, 469.
Falx cerebri, bony deposit in, 350.
Fat embolism after fracture, 876.
Feeble-minded children, the epileptic change and its appearance in, 887.
Feet, sweating of, 404, 792, 891.
Filaria, periodicity of, 125.
sanguinis hominis, 353.
Fish-eggs, effects of cold on development, 95.
Fissure in ano, new treatment, 17.
Fistula, congenital, in sacral region, 422.
Fistulae, recto-vulvar, 620.
Foetus, ascites in, obstructing delivery, 331.
dead, retained for ten months, 114.
duration of life after mother's death, 79.
Follicular enteritis and colitis, 615.
Forced alimentation, dangers of, 419.
Foreign bodies in air-passages, six maxims regarding the treatment of, 729.
Forests, relation of, to health-resorts, 549.
Formad, H. F., some comments on the paper "The Etiology of Tumors," 197.
Fothergill, J. Milner, 20, 85, 179, 253, 316, 393, 463, 535, 606, 676, 780, 852.
on mitral stenosis in the gouty heart, 881.
Fowler's solution, intra-splenic injection of, in hypertrophy of spleen, 16.
Fox, George H., removal of superfluous hair, 401.
Fox, L. Webster, examination of Indians for color-blindness, 346.
Fracture, compound, of tibia and fibula, 46.
fat embolism after, 876.
Fractures of femur, Smith's anterior splint, 545.
Freckles, removal of, 51.
Free trade in medicine, 231, 368.
French social problem, 296.
Frogs as cannibals, 31.
Furunculosis, treatment with boracic acid, 142.
Gall-bladder, aspiration of, 125.
Gallic acid, solvent for, 124.
Gall-stone causing acute intestinal obstruction, 28.
treatment of, 29.
Galvanic bath, tremors cured by, 13.
Galvanization in torticollis, 50.
Gangrene from acute idiopathic arteritis, 826.
of foot following typhoid fever, 509.
Garretson, J. E., clinical lecture by, 493.
median operation for stone, 493.
Gaultheria as an antiseptic, 792.
Geisemium-poisoning, 294.
Germany, medical profession in, 603.
Gheel, a visit to, 810.
Glaucoma, result of operation in three cases of apparently hopeless, 774.
sclerotomy for, 751.
Glottis, œdema of, treated by injections of pilocarpine, glycerin, and whiskey, 128.
Goitre, iodiform in, 191.
Goitres, soft, healed by iodiform, 404.
Gold, physiological action, 31.
Gonorrhœa, treatment of, 91, 470.
Goodell, William, clinical lectures by, 72, 207, 641.
on urethral caruncle, 161.
Gorecki, Dr., ocular symptoms in diseases, 27.
Gouty heart, Fothergill on the, 881.
Griffith, J. P. C., double femoral artery, 170.
Gross, F. H., cases, 822.
professorship of pathological anatomy, 620, 643.
Gross, Prof. S. D., resignation of, 462.
Guiteau, autopsy of, 792.
Gunshot injuries, 684.
wound of the head, 171.
of mastoid process, 540.
Hæmaturia caused by bilharzia, 889.
Hair, removal of superfluous, 401.
Hamilton, Frank H., the struggle for life against civilization and æsthetics, 434.
Harlan, George C., improved ear instruments, 708.
Hazlehurst, S. F., 429.
Heart, fatty, in progressive anæmia, 573.
lesion, complicated, 613.
rupture of, 574.
valvular disorder of, 668.
Hebra, Hans, on prurigo, 369.
phosphorus-poisoning, a case of, 866.
Heitzmann, C., on myxo-angioma of the skin, 873.
on the use of ergot in skin diseases, 873.
Hemiplegic subjects, osseous lesions in, 222.
Hemorrhage from facial artery, 187.
in extensive burns, 187.
umbilical, 321.
Hemorrhagic diathesis, 109.
Hemorrhoids, hot-water treatment of, 210, 547.
treatment of, 123.
by crushing, 655.
Henry, Frederick P., on intestinal parasites, 555.
Hepatic abscess, 90.
duct, rupture of, 726.
Hereditary syphilis, 15.
Hermaphroditism, pseudo, 511.
Hernia, large double scrotal, 554.
strangulated scrotal, 219.
Heyl, Albert G., specimen of malignant orbital growth, 554.
traumatic diphtheria of orbit, 737.
Hip diseases, 652.
Hip-joint, contraction of, 319.
disease, specimens from, 820, 821.
what is the best cure in? 451.
Hip, right-angle ankylosis of, 219.
Homœopathy, 583.
Hospital at Ashland, 583.
HOSPITAL REPORTS:
Allgemeines Krankenhaus, Vienna, clinics of Profs. Spaeth and Braun, 639.
College of Medicine, Louisville, service of Prof. Dudley S. Reynolds, 138.
Hospital of Oral Surgery, service of Prof. J. E. Garretson, 493.
Pennsylvania Hospital, Dr. J. H. Hutchinson, 386, 453, 667.
Dr. R. J. Levis, 417.
Dr. H. M. Wetherill, 11.
Philadelphia Hospital, service of Prof. H. C. Wood, 350, 637.

HOSPITAL REPORTS—Continued.

- Royal Charité Hospital, Berlin, clinic of Prof. Lewin, on syphilis and skin diseases, 878.
 University Hospital, clinic of Prof. John Ashhurst, Jr., 46, 172, 307.
 of Prof. Lou's A. Duhring, 7, 347, 874.
 of Prof. William Goodell, 72, 207, 641.
 of Prof. William Pepper, 109.
 University of Berlin, clinic of Prof. von Langenbeck, 840.
 Hot water in hemorrhoids, 547.
 Hutchinson, J. H., clinical lectures by, 386, 453, 667.
 emphysema of lung, 129.
 Hydrocele, cure of, by chloride of zinc injection, 79.
 Hydrocephalus, acute, 818.
 internal, 109.
 skull from, 760.
 Hydrophobia, treated successfully with aconite, 883.
 treatment of, 422.
 Hyosciamia as a depresso-motor, 28.
 Hypnotism, 97.
 discussion on, 119.
 mesmeric, 31.
 Hypopyon, massage of eye for, 561.
 Hysterectomy, 292, 508.
 Hysteria and the larynx, 157.
 Ice in the prevention of mammary abscess, 514.
 Ichthyosis, 7, 757.
 Illicium religiosum, 709.
 Impetigo, 7.
 Index Medicus, 80, 147.
 India, deaths from poisoned wounds in, 561.
 Indican in urine of typhoid fever, 63.
 Infantile paralysis healed by nerve-stretching, 476.
 Infants, diet of, 372.
 Infectious diseases, rags and, 891.
 Ingalls, Fletcher, on laryngeal tumors, 24.
 Innominate artery, ligation of, 891.
 Insane, domestic treatment of the, 28.
 hospitals, commission, 712.
 private institutions for the, 53.
 Insanity and suicide due to ear-disease, 541.
 International Encyclopædia of Surgery, 352.
 Intestinal catarrh in children, 861.
 obstruction by gall-stone, 28.
 laparotomy for, 764.
 parasites, 555.
 Intra-nasal hypertrophy, operation for, 650.
 surgery, 564.
 Iodine dr. stings, poisoning by, 560.
 fumigations, 190.
 in croupous pneumonia, 310.
 in soft goitres, 404.
 masking odor of, 125.
 poisoning, 421, 422.
 scented powders of, 302.
 Iodoform dressings, absorption, 727.
 dressing in tuberculous bones and joints, 76.
 in goitre, 191.
 in phthisis, 888.
 Ipecacuanha in jaundice, 159.
 Iron, administration of, 787.
 an agreeable addition to tincture of chloride of, 223.
 Jaborandi, accidents from, in eye-disease, 741.
 poultice for inflammations, 792.
 Japan, medicine in, 364.
 Japanese star anise, toxic effects of, 709.
 Jaundice, ipecacuanha in, 163.
 Jefferson College, Chair of Pathological Anatomy, 620.
 Judson, A. B., practical inferences from the pathology of hip-disease, 652.
 Juniata Valley Medical Association, resolutions on medical legislation, 795.
 Kakké, a disease of Japan, 137.
 Kane, 877.
 Keating, John M., on diet of infants, 372.
 Keen, W. W., a case of ovariectomy, etc., 449.
 etiology and pathology of Dupuytren's contraction of the fingers, 370.
 Kerato-malacie, 490.
 Keves, E. L., treatment of syphilis, 337.
 Kidney, horseshoe, 326.
 King, W. S., influence of locomotives, etc., on malaria, 306.
 Knee-joint, lesion of, 688.
 Knight, J. T., on static electricity, 686.
 Kymographions, two new, 267.
 Lachrymal obstruction, treatment by soluble styles, 751.
 Lactation, effect of some drugs on, 26.
 Langenbeck, Prof. von, clinical lecture by, 840.
 successor to, 892.
 Laparotomy for intestinal obstruction, 764.
 Laryngeal forceps, a new, 839.
 tumors, 24.
 Larynx, echchondroma of, 540.
 extirpation of, 17.
 hysteria of, 157.
 lupus of, 63, 887.
 primary tuberculosis of, 469.
 Lead chloride, a new disinfectant, 32.
 Leffmann, Henry, Schuylkill water, 778.
 Leidy, testimonial to Prof. Jos., 643.
 Leprosy, 720.
 treated with Chaulmoogra oil, 860.
 Levick, Jas. J., on typhoid fever, 477.
 on typho-malarial fever, 880.
 Lewis, K. J., a new material for drainage of deep wounds, 471.
 clinical lecture by, 417.
 dislocation of both tibiae, etc., 471.
 the treatment of varicose by incision of redundant scrotum, 69.
 Lewin, Prof., clinic of, 878.
 Life and death, chemical difference between, 259.
 struggle for, against civilization, etc., 434.
 under ground, 351.
 Ligation of common carotid for aneurism of orbit, 367.
 of innominate artery, 890.
 Liquor amni, source of, 790.
 Lithiasis, lecture on, 441.
 Lithotripsy with evacuation, 617.
 Little, Wm. S., kerato-malacie, etc., 490.
 persistent hyaloid artery, 299.
 Liver-pad, an ancient, 404.
 Lloyd, Jas. Kendrick, chronic nervous disease with rotation and cataleptic symptoms, 631.
 Lloyd, Jno. H., recovery from concussion of brain, 305.
 Locomotor ataxia, nerve stretching in, 124, 295, 475.
 perforating ulcer in, 443.
 Lung affections, treatment of acute, 503.
 Lupus of larynx and pharynx, 63.
 pathology of, 727.
 resulting in fistule, 887.
 vulgaris, 7, 348.
 Lyman on peripneumonic abscess, 505.
 MacEwen, transplantation of bone, 49.
 Magnesia, improvement in production, 30.
 Malaria, influence of locomotives on, 306.
 Malarial organisms, 84.
 Malignant growths treated with electricity and potassium iodide, 811.
 Malignant orbital growth, 554.
 Malignant pustule treated by excision, 823.
 treatment of, 114.
 preventive inoculation, 51.
 Mammary abscess, ice in prevention of, 514.
 gland, cancer of, with empyema, 818.
 malignant growths of, treated by electricity and potassium iodide, 811.
 Mania following bed-bug in ear, 332.
 Mann, M. B., appointment of Dr., 296.
 Marcy, Jr., Dr. A., a case of rupture of the small intestines, 42.
 Marine hospital service, 81.
 Massage for hypopyon, 561.
 Maternal impressions, 307, 385, 763.
 Medical legislation, 795.
 registration, 115.
 act, 146.
 services and the profession, 52.
 Megrim, ophthalmic, 475.
 Meigs, Arthur, milk analysis, 660.
 Membranous dysmenorrhœa, 125.
 Meningitis, cerebro-spinal, 669.
 latent, in pneumonia, 144.
 Metallo-therapy, 754.
 Michigan State Medical Society, 602.
 Micrococcus in the blood of malignant measles, its importance in treatment, 765.
 Migraine, formula for, 145.
 Milk analysis, 660.
 influence of remedies on, 561.
 parsley-leaves to dry up the, 440.
 Milliken, F. H., caffeine in cardiac dropsy, 344.
 hypodermic injections of ergotin for fibroid tumors of uterus, cure, 304.
 Mills, Charles K., hypnotism, 97.
 Montgomery, E. E., removal of uterus in fibroid tumor, death, autopsy, 508.
 Morphia oil, French Codex, 125.
 Morton, T. G., case of palsy of both lower extremities, 473.
 Murder of asylum superintendent, 360.
 Murrell, fuming inhalations in asthma, 29.
 Musser, J. H., 429.
 Mütter lectureship, 548.
 Mutual Aid Association of Philadelphia, 115.
 officers of, 548.
 Mydriatics, action of, 568.
 Myosis due to injury of sympathetic nerve, 295.
 Myxo-angioma of the skin, 873.
 Myxœdema, 689.
 Myxoma from mesentery of a hen, 56.
 Nancrede, C. B., antiseptic surgery, 787.
 Naphthaline as an antiseptic dressing, 876.
 Naphthol, hæmoglobinuria from, 209.
 Nasal catarrh, discussion on, 23.
 surgical treatment of, 1.
 douche, evil effects of, 806, 815.
 National Surgical Association, meeting of, 510.
 National Surgical Institute, 117.
 Nephrectomy by abdominal section, 761.
 Nerve-stretching for hysterical tremor of leg, 422.
 in infantile paralysis, 476.
 in locomotor ataxia, 124, 295, 475.
 in sciatica, 792.
 in torticollis, 95.
 in traumatic neuralgia, 307.
 optic nerve, 547.
 results of, 420.
 ureter-stretching, 890.
 Neuralgia, ammonio-sulphate of copper in, 17.
 treated by nerve-stretching, 307.
 Neuritis, traumatic cases of, 88.
 Neuroma, 651.
 New operation for excision of the inferior maxillary nerve, 178.
 Nicotinism, 890.
 Night medical service, 498.
 Nitrous oxide gas in labor, 439.
 No one to blame, crowner's-quest law 498.

- North Woods, the, 842.
 Nowatschek, treatment of spermatorrhea, 29.
 Numeration and measurement, 30.
 Nurse Registration Bureau in Philadelphia, 460.
 Nurse Registry Bureau in Cincinnati, 728.
 Nux vomica and charcoal for tympanites, 51.
- OBITUARY NOTICES:**
 Dr. Hugh W. Brock, 548.
 Dr. Thomas H. Cathcart, 476.
 Dr. John Conrad, 96.
 Dr. Charles Darwin, 548.
 Prof. John William Draper, 260.
 Prof. Joseph Pancoast, 423.
 Dr. Theodore Schwann, 396.
 Dr. Otto Spiegelberg, 128.
 Obstetric cases, thirty-five, 399.
 Obstetrical wards of Philadelphia Hospital, 467.
 Occupation for the insane, 562.
 Ocular symptoms in different diseases, 27.
 Official list of changes of stations and duties of officers of the Medical Department, U. S. Army, 32, 64, 96, 128, 160, 192, 224, 260, 296, 332, 368, 404, 440, 476, 512, 548, 584, 620, 656, 692, 728, 764, 796, 828, 860, 892.
 O'Hara, M., compound dislocation of wrist, with extension of semilunar bone, 301.
 ice in the prevention of mammary abscess, 514.
 Oleates in skin diseases, 758.
 Oleomargarine, detection of, 403.
 Ophthalmia neonatorum, 138.
 cold douche in, 709.
 Ophthalmic megrim, 475.
 Opium in acid dyspepsia, 125.
 in China, 295.
 importation of, 476, 511.
 Orchitis, potassium bromide in, 123.
 Orthopnea, free purgation with digitalis and nux vomica, 12.
 Osteoid chondroma of pelvis, 538.
 Otis, Fessenden N., spasm of bladder, etc., 499.
 Otorrhea, chronic purulent, 856.
 Out, Lambert, differential diagnosis of typhoid fever and tubercular meningitis, 635.
 Ovarian cyst, death from ruptured, 325.
 monocyst, 293.
 tumor, 470.
 Ovariectomies, Dr. John Homans, 368.
 Ovariectomy, coexistence of ovarian cyst and umbilical hernia, from the point of view of, 16.
 tetanus following, 330.
 with apparently double oblique inguinal hernia, etc., 449.
 Oxalis acetosella, juice of, as a caustic, 159.
 Oxygen, variations in amount in air, 330.
 Oysters, contamination by sewage, 404.
- Packard, John H., cases of renal asthma, 740.
 suicide by taking Paris green, 327.
 Paget, Sir James, 192.
 Pain in the side, lecture on, 261.
 Palmar fascia, contraction of, 506.
 Palpitation, treatment of nervous, 31.
 Palsy of both lower extremities, 473.
 Panaris, nervous, 113.
 Pancoast, Prof. Joseph, 423.
 Pancreas, sclerosis of head of, 786.
 Papain, solution of false membranes by, 114.
 Papaina, Bouchut on, 29.
 Papaya and papaina, 29.
 Papilloma of bladder, 572.
 Paralysis, bulbar, 886.
 following cholera morbus, 468.
 pseudo-hypertrophic, recovery, 619.
 treatment of acute spinal, 691.
 Paris green, suicide by taking, 327.
- Parish, Wm. H., retained placenta, 743.
 Parturition, rupture of uterus, etc., 888.
 Parvin, Dr. Theophilus, election of, 96.
 Patella, adhesive straps united by buckle and tongue in fracture of, 869.
 fracture of, treated by hooks, 188.
 Pathogenesis of secondary tumors, 734, 771, 807, 829.
 Pathology of intra-nasal hypertrophies, 245, 256.
 Peliosis rheumatica, a fatal case of, 521.
 Penis, epithelioma of, 822.
 Pepper, Wm., clinical lecture by, 109.
 on acute disease in drunkards, delirium tremens, 621.
 Pericarditis in rheumatism, 667.
 Pericardium, drainage of, 223.
 Periodicity of filarial migration, 125.
 Peripleuritic abscess, 505.
 Peritonitis, fatal, from ruptured ovarian cyst, 355.
 Perityphilitic abscess, recovery after, 814.
 Pharmacopoeia, the United States, 181.
 award of the, 522.
 Pharyngitis, granular, application in, 51.
 Philadelphia County Medical Society and the woman question, 499.
 ethical resolutions, 548.
 medical classes, 81.
 water-supply, 783.
 Phlegmasia alba dolens occurring in a hemiplegic and terminating in gangrene, 48.
 Phosphorus-poisoning, a case of, 866.
 Phthisis, antiseptic treatment of, 763.
 discussion on, 183.
 forced alimentation in, 309.
 iodoform in, 888.
 pre-physical sign stage of, 163.
 pulmonalis, 286.
 Physicians in different countries, comparative proportion of, 96.
 PicROTOXINE for sweating, 792.
 Pilcher, Louis D., ligation of large venous trunks, 664.
 Pilocarpine, 792.
 in oedema of glottis, 78.
 Placenta, bad effects from retained, 743.
 double, 561.
 Plastic or reparative surgery, 657.
 Pleural effusion, death, 889.
 Pleurisy, fatty, 17.
 in phthisis, 671.
 simple acute, 671.
 Plumbing, discussion on, 361.
 Pneumonia, croupous, iodine in, 310.
 schizomycetes in, 890.
 Podophyllin, overdose of, 520.
 Podophyllum peltatum, pharmacology of, 78.
 Poisoning by aconitia, 724.
 by atropia, treated with eserine, 124.
 by belladonna, case of successful treatment with morphia, hypodermically, 492.
 by boric acid, 176, 420.
 by gelsemum, 294.
 by iodoform, 176, 421, 560.
 by Japanese star anise, 709.
 by lead, 331, 431.
 by lobelia, 778.
 by Paris green, 327.
 by phosphorus, 866.
 by potassium chlorate, 728.
 by stramonium, 458.
 by strychnia, morphia in, 692.
 by strychnia, nitrite of amyl, 546.
 by yellow yarn, 431.
- Pola, 561.
 Polypus of nose, 612.
 Pompeian surgical instruments, 727.
 Potassium bromide, draughts in vomiting, 210.
 chlorate, death from, 728.
 iodide and bromide, administration of, in alkaline waters, 94.
 permanganate in snake-bite, 222.
- Pott's disease, 285.
 can it be cured without deformity? 273.
 Practitioners, mutual duties, 547.
 Pregnancy complicated with cancer, 470.
 Pre-natal chaton, 705.
 Prentiss, D. W., overdose of podophyllin, 520.
 Prentiss, L. Webster, influence of maternal impressions on the fetus, 385.
 Presbyterian Hospital appointments, 32.
 Prize essay, Red Cross Society, 512.
 medals, 728.
- PROCEEDINGS OF SOCIETIES:**
 American Dermatological Association, 855.
 American Laryngological Association, 675.
 American Medical Association, 644.
 New York Academy of Medicine, 288, 361, 363, 434, 499, 542, 580, 617, 652, 686.
 New York County Medical Society, 401, 720.
 New York Pathological Society, 683.
 Obstetrical Society of Philadelphia, 292, 358, 431, 508.
 Pathological Society of Philadelphia, 56, 57, 215, 256, 321, 429, 538, 572, 612, 651, 784, 817, 821, 822.
 Pennsylvania State Medical Society, 561.
 Philadelphia Academy of Surgery, 186, 219, 396, 471, 509, 576, 684, 787.
 Philadelphia County Medical Society, 23, 54, 89, 119, 183, 285, 326, 396, 425, 468, 470, 506, 541, 570, 616, 648, 679, 714, 754, 753, 757, 759, 760, 783, 814, 815.
 Society for Medical Improvement, Boston, 185, 319, 399, 503.
 Procidencia, and its relief, 564.
 Profession, overplus in the, 224.
 Progress of specialists' schemes for plunder, 424.
 Prostitution in Canton, 891.
 Protection of the sane or of the insane, 674.
 Prurigo, a case of, 519.
 Dr. Boenning's case of, 584.
 lecture on, by Hans Hebra, 369.
 Pruritus vulvæ, nitrate of aluminium in, 30.
 Pseudo-hermaphroditism, a case of, 511.
 hypertrophic paralysis, 619.
 Psoriasis, arseniate of soda, 223.
 Ptomaines, distinguished from vegetable alkaloids, 64.
 Public Health Association, meeting of, 116.
 Puerperal convulsions, veratrum viride in, 841.
 infection in the male, 440.
 Purgatives by hypodermic injection, 63.
 Purpura followed by diabetes mellitus, 15.
 Pyæmia of obscure origin, 185.
 Pylorus, excision of cancerous, 582.
 Pyrethrum in phtheiriæsis pubis, 653.
 Pyrogallic acid, applications to chancreoid, 13.
- Quebracho, 144.
 Quina, estimation of, 859.
 piconitrate of, 14.
- Raddcliffe, J. J., treatment of uterine fibroids with iodine, 592.
 Radius, fracture of lower end of, 714.
 Rags and infectious diseases, 891.
 Randall, Alexander B., case of corneal repair, 738.
 trial-glass frame, 739.
 Reese, John J., letter from, 728.
 Registration of physicians, 569.
 Reichert, E. T., aconite, 105.
 two new kymographs and a time-recorder, 267.

- Resorcin and chinoline, 754.
as an antiseptic, 79.
in aural surgery, 224.
in cholera infantum, 176.
method of prescribing, 14.
- Reynolds, Dudley S., clinical lecture by, 138.
- Rheumatism, acute, 455.
chronic, 109.
- Rhus-poisoning, proctitis and peritonitis from, 636.
- Richardson, Joseph G., tube-casts in Bright's disease, 557.
- Risley, S. D., result of operation in three cases of apparently hopeless glaucoma, 774.
- Roberts, J. B., 431.
lecture on the principles of plastic or reparative surgery, etc., 657.
relation of syphilis to scrofula, 409.
trephining the skull, 206.
- Robinson, Orlando C., on tuberculosis, 130.
- Rodent ulcer, 569.
- Royal hospital for consumptives, and the climate of Ventnor, Isle of Wight, 118, 142.
- Rubber tubing, applications of, 542.
- Rupture of descending colon, 819.
of urethra, case of, 11.
of uterus, 888.
- Ryder, Isaiah, origin of blood-corpuscles, 703.
- Salicylic acid in wooden vessels, 125.
- Saliva, virulence of normal human, 62, 836.
- Salivary calculus, 815.
- Salmon-disease, and its lessons, 886.
- Sarcoma of brain, 690.
of capsule of lachrymal gland, 326.
of dura mater, 511.
- Sarcomatous tumor, lecture on, 297.
- Schizomycetes or microbes, 439.
in acute pneumonia, 890.
- Schuylkill water, note on, 778.
- Sciatica, 455, 762.
nerve-stretching in, 792.
nitrate of silver in, 222.
- Scleroderma and onychogryphosis, 78.
- Scleroticic acid, 14.
- Scrofuloderma, 348.
- Scrofulous neck, origin and cure, 94.
- Seguin, early recognition of epilepsy, 59.
on hyosciamia, 28.
- Seiler, Carl, evil effects of nasal douche, 866.
intra-nasal hypertrophies, 245.
surgical treatment of nasal catarrh, 1.
- Semilunar bone, compound dislocation of, 220.
- Senator on bulbar paralysis, 886.
- Separation of epiphyses in hereditary syphilis, 16.
- Sequestra, resorption of, 708.
- Sewall, Chas. A., case of belladonna-poisoning, successful treatment of, with morphia hypodermically, 492.
- Sewerage and drainage, 355.
- Sexton, Samuel, on treatment of ear-diseases, 288.
- Sexual instinct, 750.
- Silver, nitrate of, in dysmenorrhœa, 517.
in sciatica, 222.
- Singultus, a cure for, 63.
- Skin, myxo-angioma of, 873.
- Skin diseases, 1715 cases of, 411.
ergot in, 873.
oleates in, 758.
oleates and oleo-palmitates in, 563.
- Skin-grafting from dead subject, 32.
syphilis conveyed by, 351, 890.
- Skull, penetrating dagger-wound of, 576.
trephining of, 206.
- Small intestines, a case of rupture of, 42.
- Smallpox and anti-vaccinators, 145.
carbolic acid lotions in, 710.
former mortality, 547.
- Smith, Albert H., on diabetes, 363.
on sponge-tents, 358.
- Snake-bite, permanganate of potassium in, 222, 459.
- Snake-poison, liquor potassæ in, 727.
- Soap-paper 73 7.
- Sodium ethylate, 125.
- Spæth, Prof., clinical lectures by, 639.
on Cæsarean section by Porro's method, 513.
- Specialist, the work of the, 192.
- Specialists, an open field for, 404.
hard on the, 64.
- Spermatorrhœa, treatment of, 29.
- Spleen, hypertrophy of, treated by par-enchymatous injections of Fowler's solution, 16.
rupture of, 822.
tumor of, 429.
- Splenic circulation, 366.
- Splenitis treated by ergot, 475.
- Sponge-grafting, 191.
- Sponge tents, 358.
- Squibb, E. R., on estimation of quinia, 859.
- Starr, Louis, bronchial catarrh, accompanied by spasmodic cough and epigastric pain, occurring in children, 5.
- Static electricity, application of, 36.
as a galactagogue, 103.
- Stelwagon, H. W., analysis of 1715 cases of skin disease, 411.
- Sterility treated by dilatation of cervix, etc., 331.
- Sternberg, George M., virulence of normal human saliva, 62, 836.
- Stillwell, W. C., fibroid tumor of uterus, 71.
- St. Jacob's Oil, composition of, 890.
- Stomach, resection of, 792.
- Stone, high operation for, 62.
in the bladder, method of detecting, 779.
median operation for, 493.
- Story, the old, 711.
- Stramonium-poisoning, 458.
- Straus on tabetic ecchymoses, 190.
- Stricture of colon, 615.
- Strychnia-poisoning, morphia in, 692.
new antidote for, 778.
nitrite of amyl in, 546.
- Styptic, a "tom-cat," 192.
colloid, improved, 188.
- Suesserott, J. L., another triumph for whiskey or dilute alcohol as an external dressing, 872.
- Superior maxillary bone removed without external incision, etc., 303.
- Suppositories, nutrient, 511.
- Surface-thermometers, 472.
- Surgery, antiseptic, 787.
- Surgical engine, 303.
- Sweating of feet, 404, 891.
picrotoxine for excessive, 792.
- Sycosis, formula for, 51.
- Sympathetic nerve, injury to, 295.
- Syphilis by skin-grafting, 351, 890.
prevention of, 225.
relation of, to scrofula, 409.
separation of epiphyses in hereditary, 16.
signs of inherited, 96.
treated by hypodermic injections, 716.
treatment of, 337, 396.
- Syphiloderm, tubercular, 349.
- Tabes dorsalis, ocular symptoms, 762.
- Tabetic ecchymoses, 190.
- Tampon, a metallic, 288.
- Taylor, William T., a case of maternal impressions, 307.
- Temperature, high local, 332.
influence of various alkaloids on body, 79.
of a deep mine, 512.
- Tetanus after ovariotomy, 330.
following vaccination, 546.
successfully treated by chloral and bromide, 439.
successfully treated by eserine, 475.
- Tetanus successfully treated by physostigmin hypodermically injected, 440.
- Thoroughness, 211.
- Thumbs, supernumerary, 188.
- Tibia, abscess of, trepanation, 16.
excision of portion of, 172.
- Tinea versicolor, 7.
- Toluol-diamine, a new chologogue, 710.
- Tongue, excision of, recovery, 885.
- Tonsillitis, acute, 619.
bicarbonate of soda in, 404.
- Torticollis, nerve-stretching in, 95.
treated by galvanization, 50.
- Tracheotomized persons, vitality of, 79.
- Tremor of leg treated by stretching sciatic nerve, 422.
- Tremors cured by galvanic bath, 13.
- Trephining for meningeal hemorrhage, recovery, 421.
- Trial-glass frame, a new adjustable, 739.
- Trichina in lard, 710.
- Trichinosis, outbreak of, 511.
symptoms of, 459.
- Trismus neonatorum, 620.
- Tube-casts, formation of hyaline, 439.
- Tubercle-bacillus, its detection in sputum, 887.
- Tubercular meningitis in adult, 386.
- Tuberculosis, acute, specimens from, 321.
contagion of, 17, 315.
etiology of, 725, 843.
experimental research in, 130.
of buccal mucous membrane, 77.
of traumatic origin, 113.
primary, of palate, 78.
- Tumor, abdominal, 207.
in young women, 72.
of alveolar process, 651.
of finger, 46.
of supra-renal body, 540.
spontaneous atrophy of, 431.
- Tumors, etiology of, 197.
painful subcutaneous, pathological histology of, 79.
pathogenesis of secondary, 734, 771, 807, 829.
- Turpentine as a disinfectant, 584.
- Typanites of typhoid fever, 51.
- Typhoid fever, 477.
and tubercular meningitis, differential diagnosis of, 635.
at three years of age, 415.
cold baths in, 32.
gangrene of foot after, 509.
lesions, 818.
specimens, 615.
treated by copper, 890.
two relapses after, 386.
unusual case of, 320.
ulceration followed by perforation and lumbar abscess, 707.
- Typho-malarial fever, 880.
- Tyson, Jas., 429.
- Tyson, Jas. L., diabetes mellitus, 193.
pre-natal chaton, 703.
practical significance of crystalline and other urinary sediments except tube-casts, 559.
- Ulcer, non-typhoid, 615.
perforating, 443.
- University of New York, resignation of post-graduate faculty, 583.
- Uræmia following introduction of split bougie, 821.
- Urethra, rupture of, 11.
- Urethral caruncle, W. Goodell on, 161.
- Urethrotome, an improved, 459.
- Uric acid, method of estimating, 618.
- Urinary deposit, fictitious, 650.
- Urine, newly-discovered components of, 114.
- Urology, clinical, 63.
- Uterine appendages, removal of, 860.
dilators, 431.
fibroids treated with iodine, 592.
myoma, disappearance after removal of uterine appendages, 191.
- Uterus, ablation of fibroid tumors of, 223.

- Uterus, a case of fibroid tumor of, 71.
 cancer of, 72.
 fibroid tumors of, ergotin in, 304.
 liniment for prolapse of, 210.
 removal of, 508.
 rupture of, 888.
- Vaccinal syphilis, 51.
- Vaccination, 52.
 discussion on, 816.
 tetanus following, 546.
 unfortunate results from, 800.
- Varicocele, discussion on, 88.
 treated by chloral, 762.
 treatment by excision of redundant scrotum, 69.
- Venous dilatation, case of, 310.
 trunks, ligation of large, 664.
- Veratrum viride in puerperal convulsions, 841.
- Vertebra, cancer of, 77.
- Vesical calculus, spontaneous fissure and expulsion of larger portion of, 753.
- Vesico-vaginal fistule from cancer, 72.
- Vitreous body, opacity of, 260.
- Vivisection in England, 19.
- Vomiting in phthisis, cold water hypodermically, 336.
 potassium bromide in, 210.
 recurrent green, 757.
- Walker, J. B., on lithiasis, 441.
- Wasted sympathies, 779.
- Water, method of treating hard, 889.
- Water-bed, cheap, to prevent bed-sores, 188.
- Watermelon sugar, 891.
- Weatherly, domestic treatment of the insane, 28.
- Welch, Wm. W., unfortunate results from vaccination, 800.
- Weller, Dr., on numeration and measurement, 30.
- Wetherill, H. M., report, 11.
- Whale-fishery, Norway, 476.
- Whiskey or dilute alcohol as an external dressing, 872.
- White, J. William, prevention of syphilis, 225.
- White swelling, 46.
- Whitney, W. H., kakké, 137.
- Whooping-cough, nerve element in, 749.
 remedies, 209.
- Wile, Henry, pathogenesis of secondary tumors, 734, 771, 807, 829.
- Wilson, Erasmus, honors to, 224.
- Wingate, Chas. F., plumbing, 361.
- Wood, H. C., clinical lecture by, 350, 637.
 on the nature of the diphtheritic contagium, 33.
 two cases of cerebral disease, 135.
- Woodbury, Frank, rational treatment of pulmonary consumption, 693.
- Worn out: a study in prognosis, 391.
- Wounds, a new material for drainage of deep, 471.
 open dressings, 685.
- Wrist, compound dislocation of, 301.
- Young doctor in public charities, 147.
- Zymotic diseases, special poison of, 4.

